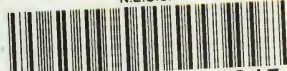
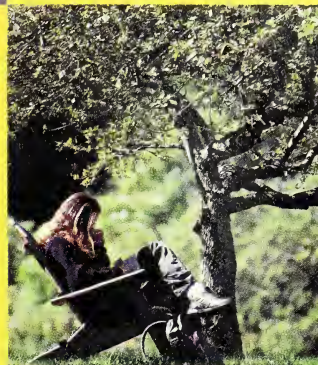


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*Academic
Catalog
1998-2000*

NORTHERN ESSEX COMMUNITY COLLEGE





1998-2000
CATALOG



Northern Essex Community College

Elliott Way
Haverhill, Massachusetts 01830
Telephone 978 556-3000

45 Franklin Street
Lawrence, Massachusetts 01841
Telephone 978 738-7475

Accreditation

Northern Essex Community College is accredited by the New England Association of Schools and Colleges, Inc., which accredits schools and colleges in the six New England states. Accreditation by the Association indicates that the institution has been carefully evaluated and found to meet standards agreed upon by qualified educators.

Northern Essex supports the efforts of primary and secondary school officials and governing bodies to have their employees attain proper certification and their schools achieve regional accredited status to provide reliable assurance of the quality of the educational preparation of its applicants for admission.



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COLLEGE DIRECTORY

Haverhill Campus Info: 978 556-3000
Lawrence Campus Info: 978 738-7475
e-mail: info@necc.mass.edu
www.necc.mass.edu

ACADEMIC ADVISING CENTER
978 556-3805
advising@necc.mass.edu

ACADEMIC AFFAIRS
Vice President's Office
978 556-3325

ACADEMIC SUPPORT CENTER
978 556-3401

ADMINISTRATIVE SERVICES
Vice President's Office
978 556-3922

ADMISSIONS
978 556-3600
admissions@necc.mass.edu

BURSAR
978 556-3903
bursar@necc.mass.edu

CAREER DEVELOPMENT CENTER
978 556-3721
careers@necc.mass.edu

CENTER FOR BUSINESS & INDUSTRY
978 556-3814 — Haverhill Campus
978 738-7468 — Lawrence Campus

COLLEGE LIFE & HEALTHY LIVING
978 556-3818
living@necc.mass.edu

CONTINUING EDUCATION SERVICES
Dean's Office
978 556-3803

COUNSELING
978 556-3790
counseling@necc.mass.edu

ENROLLMENT MANAGEMENT
AND STUDENT SERVICES
Vice President's Office
978 556-3625
emss@necc.mass.edu

INSTITUTIONAL ADVANCEMENT
Dean's Office
978 556-3624

FINANCIAL AID
978 556-3650
finaid@necc.mass.edu

LAWRENCE CAMPUS
Dean's Office
978 738-7401

LEARNING ACCOMMODATIONS CENTER
978 556-3654
lacenter@necc.mass.edu

PERSONNEL
978 556-3923

PRESIDENT
978 556-3855

REGISTRAR
978 556-3700
registrar@necc.mass.edu

DEAF & HARD OF HEARING SERVICES
978 556-3658
deafservices@necc.mass.edu

STUDENT ACTIVITIES & CAMPUS EVENTS
Haverhill Campus: 978 556-3732
Lawrence Campus: 978 738-7417
activities@necc.mass.edu

STUDENT HEALTH SERVICES
Haverhill Campus: 978 556-3770
Lawrence Campus: 978 738-7482
healthsvc@necc.mass.edu

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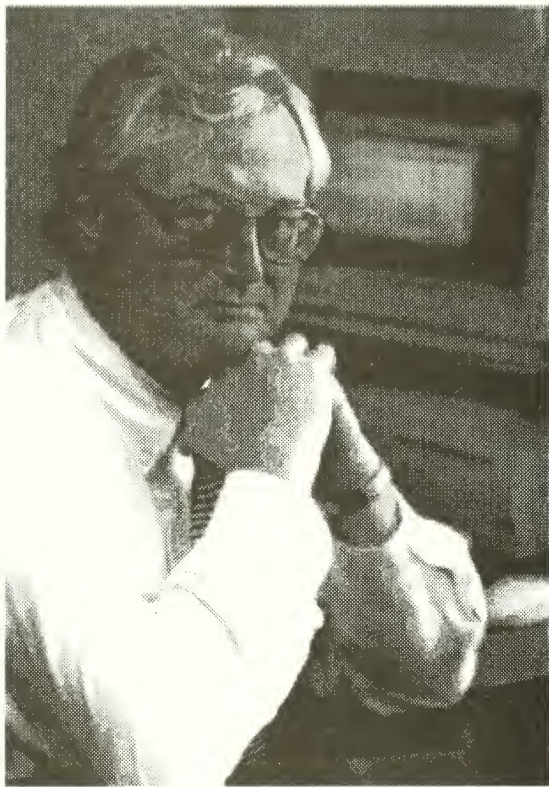
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The purpose of this publication is to provide information about Northern Essex Community College to persons who work and study at the College, to persons who may be interested in applying for admission, and to parents, teachers, counselors, and the general public. This publication is neither a contract nor an offer to make a contract. While every effort has been made to ensure the accuracy of the information in this publication, the College reserves the right to make changes at any time with respect to course offerings, degree requirements, services provided, cost of attendance or any other subject addressed in this publication. The information in this publication is provided solely for the convenience of the reader, and the College expressly disclaims any liability which may otherwise be incurred.

WELCOME BY THE PRESIDENT



First of all, I would like to let you know how pleased I am that you are considering Northern Essex Community College.

At Northern Essex, we put the needs of our students first and foremost. We want to be sure that the education students receive is of high quality and that we have the support services in place to help each one succeed.

To achieve this, we carefully monitor our academic programs to make sure they are current and effective. We want to provide the skills needed to reach individual goals whether they include finding a job, transferring successfully, enhancing a current career or personal growth.

Since our students are often balancing work and families with their education, flexible scheduling is also a priority for us. In addition to day courses, the college has evening and Saturday courses as well as telecourses that allow students to do the majority of their work at home rather than

in the classroom. We also offer a choice of convenient locations including our campuses in Haverhill and Lawrence and our extension sites in Andover, Methuen and Newburyport.

Another hallmark of the education students receive at Northern Essex is our support services. Our Reading, Writing, Math and English Language Centers, our Career Development Center and our Advising Center are just a few of the offices available to help our students succeed and make the most of a college education.

I encourage anyone to carefully review this catalog to be familiar with all of the resources available. Enjoy a Northern Essex experience and future success!

Sincerely,

David Hartleb

David F. Hartleb
President of the College

THE COLLEGE

Northern Essex Community College is justifiably proud of the quality of education and services we offer to our students. Each year over 10,000 individuals study at Northern Essex either full- or part-time. We have a teaching faculty who concentrate their education, experience and effort in the classroom. When your education is completed, you will have the skills needed to join the thousands of Northern Essex graduates who have transferred successfully to baccalaureate programs, or who have become a part of the highly skilled business, industrial and professional work force for which New England is famous.

You will be able to study at Northern Essex at an extremely low cost. *The average full-time student residing in Massachusetts spends approximately \$1000 a semester for tuition and fees excluding insurance.* Part-time study is comparably inexpensive. A number of financial aid sources are available to eligible students and we are committed to helping you find a way to afford Northern Essex.

Northern Essex is a public, two-year college that offers comprehensive programs of study leading to the Associate in Arts degree, the Associate in Science degree and Certificates of program completion. Excellent facilities, solid academic support services and a dynamic student activity program are part of the educational opportunities available at Northern Essex. Flexible scheduling and the option of completing your degree or certificate at your own pace are hallmarks of a Northern Essex education.

Programs specifically designed for transfer including Liberal Arts, Business Transfer, and Engineering Science, are offered for those students planning to work toward a Bachelor of Arts degree or a Bachelor of Science degree at a four-year institution after graduation from Northern Essex. Our graduates have consistently been successful as transfer students in public and private colleges and universities throughout the country.

Career programs are offered in the arts, business, human services, health professions, social services, the paralegal area, the technologies and office technology for those students who intend to seek employment upon completion of the associate degree. Our career programs also have significant proven transfer potential.

The General Studies program is available to students who have not decided on a particular field of study and want an opportunity to explore their interests and abilities.

Northern Essex with its permanent campuses in Haverhill and Lawrence is an integral part of the local Merrimack Valley community. The rural Haverhill campus borders Kenoza Lake, and is just one minute from Exit 52 off Interstate Route 495. The college's second campus is located in the heart of the city of Lawrence less than ten minutes from Exit 41 off Route 495 or Exit 46 off Route 93. A broad range of academic programs, noncredit offerings and support services is available at this site. It also houses the college's paralegal studies, criminal justice and health programs, including registered and licensed practical nursing, radiologic technology, respiratory care, medical assisting and dental assisting programs. Extension sites are located in Andover, Methuen, and Newburyport. Our multiple locations allow for easy commuting, minimum disturbance of home and job schedules, and avoidance of expensive dormitory and food plan costs. We are in close touch with what is going on in the Merrimack Valley—we are in touch with the kinds of academic programs people want to study, the skills training the community needs and where career opportunities for our graduates are located.

Philosophy of the College

Northern Essex Community College is committed to the belief that high quality, low cost education should and can be available to everyone in the community. People of all ages and backgrounds are welcome to utilize the educational opportunities offered.

Northern Essex seeks out potential students who may not be aware of the educational possibilities around them. Age, ethnic or religious background, physical disability or past academic records are not prohibitive factors to admission. The college encourages people to consider education throughout their lives.

To implement these ideals, the college has developed and is continuing to expand a wide variety of flexible programs to meet diverse community needs.

Mission of the College

The mission of Northern Essex Community College is to serve the people of the Greater Merrimack Valley as a caring and comprehensive center of educational excellence that offers high quality, affordable adult and postsecondary education through the Associate Degree level, as well as a broad range of occupational programs and community services which enhance the social, cultural and economic life of the region.

Goals

In keeping with this mission, which it has embraced since its founding in 1961, Northern Essex commits itself, within the limits of available resources, to the following major institutional goals:

Access and Retention:

- To provide access, for both traditional and nontraditional populations, to high quality education through clearly stated academic program admissions standards and a process of timely advising including, where appropriate, mandated assessment and planned placement, that are designed to help students develop their potential and realize their individual goals.
- To provide a wide range of supportive services or reasonable accommodations to help students overcome obstacles of an educational, financial, personal, motivational, or physical nature.
- To provide quality programming for those students interested in transferring to baccalaureate degree programs and to work effectively with other educational institutions to facilitate workable transfer agreements.
- To provide quality programming in occupational areas.

Educational Excellence:

- To provide a variety of teaching methods and subjects that furnish students with sufficient background and choices to adapt to a broad range of societal changes.
- To promote excellence in teaching and to encourage the scholarly and professional growth of faculty and staff.

- To encourage experimentation and innovation in educational practices and policies and to evaluate regularly the appropriateness and quality of our academic offerings.
- To foster a climate in which learning is valued for its own sake, is appreciated as a lifelong activity and as a means for individuals to develop their intellectual, physical, ethical and social values and skills.

Multicampus:

- To become a multicampus community college that provides comparable programs and services for the community and students of each campus while preserving institutional unity, cohesion and quality.
- To identify and serve segments of the population that may require specific programming approaches, especially those who have been traditionally underrepresented in postsecondary education, and to serve such groups through curriculum development as well as through academic, financial and counseling support.
- To broaden the international and intercultural dimension of education at Northern Essex.

Participatory Governance:

- To promote ongoing educational dialogue among all college associated constituencies including students, employees, governing bodies, accreditation and advisory boards, and representatives of the community at large.
- To maintain an effective participatory internal governance system through the All College Council, a comprehensive advisory system based on a sense of institutional identity and solidarity.
- To encourage creativity and innovation in the implementation, evaluation and modification of college programs and policies through a process of frank and open communication among students, faculty, staff and administration.

Community:

- To serve as a resource to the education, business and industry, arts and science and public service communities of the Merrimack Valley.
- To foster successful career choices and job performance by promoting cooperative and experiential education opportunities, internships and clinical options in a wide variety of settings.
- To continue to interact in cooperative partnership with regional business, industry, schools and service agencies interested in improvement of the regional economy and quality of life.

Faculty

Our dedicated teaching faculty accept with enthusiasm the challenge of responding properly to the differing backgrounds of their students and, at the same time, directing and leading them toward broader understandings. Our faculty are deeply involved in the planning of each class and in the achievement of each student, and are equally dedicated to personal achievement -- nearly 90% hold advanced degrees and many hold the highest degree in their fields. Our faculty have the teaching time and the commitment to advise as well as instruct students, and to provide support and encouragement as well as specialized study opportunities.

Student Body

Our student body is a complex group. Many come here directly after high school, often from the top 25% of their class. Others bring a variety of living and job experiences to their studies. The average age of our students ranges from 27 in the day to approximately 32 in the evening.

Some are taking traditional college programs, planning to transfer to a four-year institution after graduation. Some are enrolled in associate degree or certificate programs leading to immediate employment in specialized career fields. Some are taking developmental courses to upgrade their academic backgrounds while pursuing a degree program. Others are taking individual courses, exploring alternatives before making more formal academic decisions. Some students take special interest courses only. Large numbers of students are enrolled in

nontraditional programs of study such as English as a second language courses, and certain training programs in special skills and high technology areas are designed to fit the unique training needs of individual groups of students or particular employers.

Governance of the College

In conformance with Chapter 15-A of the Laws of the Commonwealth, jurisdiction over Northern Essex Community College is shared by a local Board of Trustees and a central Board of Higher Education which governs all segments of public higher education in Massachusetts. The Trustees, in turn, delegate responsibility for administration of the college to the President. The President solicits advice in the decision making process from a number of sources, including a collegewide All College Council, as well as numerous programmatic advisory councils and commissions comprised of representatives from area businesses, industries, unions, social agencies and educational, public and private institutions in the Merrimack Valley.

Alumni Relations

The Alumni Relations Office organizes and coordinates the college's alumni program and strives to provide our over 21,000 alumni with a comprehensive and beneficial alumni program which will encourage them to stay connected and involved while encouraging them to give something back to their alma mater. The Alumni Office tracks graduates, sponsors a wide variety of educational and social programs and events, works with the Alumni Association Advisory Board, conducts fundraising and showcases and promotes graduate success. Graduate benefits include: The NECC Alumni Bulletin newsletter; reduced memberships to the college's Wellness & Fitness Center; free use of the college library, placement office and career counseling services; opportunities to participate in the Alumni Mentor Program or career panels; access to Boston museum passes; and membership in the Alumni Association. The Alumni Association Advisory Board meets regularly to promote the interests of NECC Alumni and to foster an ongoing relationship between graduates, the college and the community. For additional information, contact the Alumni office at 978 556-3789 or drop by Room 301 in the Library (A) Building on the Haverhill campus.

ADMISSION

We encourage everyone to consider attending Northern Essex Community College. People have thought of a college as an educational resource for recent high school graduates. Northern Essex is this and much more.

- Students may enroll in a transfer program and continue their study at a four-year college after earning an associate degree. This allows completion of part of a student's education at a relatively low cost. Students enjoy the benefits of a faculty dedicated solely to teaching; not one whose primary emphasis is research.
- Students may enroll in an associate degree program leading to a job and career after graduation.
- Students may choose one of the career-oriented certificate programs to develop or upgrade a skill as quickly as possible.
- Students may study on a full- or part-time basis, days or evenings, and may begin in the fall, spring or summer.
- Students may complete their high school equivalency (GED) at Northern Essex.

Getting to Know Northern Essex

We encourage prospective students to visit the campus and to speak with our students and graduates. Satisfied students and alumni are our best endorsement. Campus tours are available. Please call the admissions office at (978) 556-3600 to sign up. Our staff members are ready to answer questions or refer prospective students to someone who will assist in making initial education decisions.

Application for Admission

Northern Essex Community College accepts without discrimination all applicants meeting the admission standards for an associate degree, certificate or other academic program. Some programs require a specific academic prerequisites for admission, others have enrollment limits. Please refer to the section on admissions standards, factors in admissions, and the program requirements listed in the catalog for more details. Applicants must be high school graduates or the equivalent, or meet ability-to-benefit guidelines.

For the fall session, preference will be given to completed applications received prior to January 1. Programs have different application deadlines depending upon demand. Information about current deadlines by program is available in the Admissions Office.

Obtain an application form and return the completed form to the Admissions Office and request your high school and any college attended to forward an official transcript of grades to the Admissions Office. Applications cannot be acted upon until they are complete.

Joint Admissions Programs with the University of Massachusetts and the Massachusetts State Colleges

Northern Essex Community College participates in Joint Admissions Programs with the four University of Massachusetts undergraduate campuses and the nine Massachusetts state colleges. These programs guarantee participating students admission to the UMass campus or Massachusetts state college of their choice, provided they graduate from an approved academic program at NECC with a cumulative grade point average of 2.5 or higher. Participating students receive customized counseling, advising and other support services from their beginning semester through completion of their associate degree.

Students interested in participating in Joint Admissions must enroll prior to earning 30 credits towards graduation at NECC (including any advanced standing or transfer credits). Student Participation Agreement forms are available at the Admissions Office. During their final semester at NECC, before graduation, students must also complete the Intent to Enroll form for the UMass campus or state college they plan to attend. As participants in Joint Admissions, they are not required to fill out an application form for that institution, nor do they have to pay an application fee.

TUITION ADVANTAGE PLAN FOR JOINT ADMISSIONS STUDENTS

Through the state's Tuition Advantage Plan, Joint Admissions program, participants who graduate from NECC with a minimum cumulative GPA of 3.0 will receive a 33% tuition reduction on in-state tuition for up to two years, after they transfer to their Joint Admission school of choice. To receive the reduction in the second year, students must maintain a cumulative 3.0 GPA for the first two semesters after transfer.

Admission Standards

Standards for admission to academic programs at Northern Essex Community College are stated in this college catalog. The college reserves the right to determine the number of students to be enrolled in each program of instruction, and to utilize professional judgment in making admissions decisions.

Factors in Admission

The following may be considered in making admissions decisions:

The applicant's ability to benefit from the program; the availability of seats in the applicant's chosen program; the distance from the applicant's place of residence to the college; or the applicant's potential access to other postsecondary education opportunities. The college reserves the right to invoke a geographical preference factor for admission to a program when it is deemed necessary. This factor may be taken into consideration with other factors to determine a program admissions decision. When invoked for a program, the geographical preference order is:

- applicants from the college's primary service area;
- applicants from the college's secondary service area;
- applicants from Massachusetts, but outside these two areas;
- applicants who are eligible for the Regional Student Program (RSP) of the New England Board of Higher Education;
- applicants from out of state; and applicants who would qualify as foreign students if accepted; that is, on F-1 status.

Contact the Admissions Office for information about programs which currently have a geographical preference factor in effect.

For Further Information

All inquiries, requests for forms or other materials, or questions pertaining to application, admission and matriculation should be sent to the Admissions Office, Northern Essex Community College, Elliott Way, Haverhill, MA 01830-2397, or call (978) 556-3600.

All inquiries, requests for forms or questions pertaining to registration should be sent to the Registrar's Office, Northern Essex Community College, Elliott Way, Haverhill, MA 01830-2397 or, call (978) 556-3700.

Applicants with Disabilities

Northern Essex adheres to all nondiscrimination laws, both in letter and spirit. Otherwise-qualified applicants who have disabling conditions for which they might require additional assistance or reasonable accommodations are encouraged to contact the Learning Accommodations Center at (978) 556-3654, or tty: (978) 556-3655.

Foreign Students

Northern Essex Community College may accept a limited number of foreign students each year. Foreign students whose native language is other than English will be required to take an English Language Evaluation Test at the Assessment Center at the Haverhill or Lawrence campus. The results of this test will be used for placement in appropriate language classes. Foreign student applicants should request a Foreign student application packet from the Admissions Office.

Transfer Credit

Transfer credit may be awarded for a course earned with a grade of C or better at another accredited institution when the course is equivalent to one offered by the college and applies to the Northern Essex curriculum in which the student is enrolled. Grades given for transferred courses are not computed in the quality point average at Northern Essex Community College. If credit is to be transferred from one Northern Essex Community College program of study to another, the transfer credit will be evaluated by the Assistant Dean of Registration.

Credit may be granted for courses which have previously been counted toward a degree that an individual has been granted (whether baccalaureate or associate degree) provided the courses previously taken apply to the Northern Essex curriculum in which the student is currently enrolled.

Transfer credit for course work completed in another country is not evaluated at Northern Essex. For information on where foreign transcripts may be evaluated, call the Admissions Office. The number is (978) 556-3600.

Advanced Placement

Students who take Advanced Placement courses and an Advanced Placement Test of the College Board in secondary school may be awarded advanced placement and credit at the college. Credit is granted on the basis of a three or higher score on the Advanced Placement Test.

Readmission to the College

Students who discontinue enrollment at Northern Essex may have to apply for readmission. Some academic departments have specific policies governing readmission.

Cooperative Ventures with Area Secondary Schools

Northern Essex Community College has entered into a number of articulation agreements with regional vocational schools and comprehensive high schools to grant college credits and advanced placement for superlative students who have completed advanced course work in areas such as electronics, drafting, computer and information sciences, business, health technology, math and science. This effort is ongoing, and more schools and programs are expected to be added in the future. To date, agreements have been signed with the following schools:

Amesbury High School
Georgetown Middle High School
Greater Lawrence Technical School
Greater Lowell Regional Vocational Technical School
Haverhill High School
Lawrence High School
Lynn Vocational & Technical Institute
Methuen High School
Northeast Metropolitan Regional
Vocational Technical High School
Peabody Veterans Memorial & Vocational High School
Salem High School, Salem, MA
Shawsheen Valley Regional Vocational Technical School
Triton Regional High School
Whittier Regional Vocational Technical High School
Winnacunnet High School

For more information, contact the guidance counselor or appropriate department head at the secondary school or the Office of Academic Affairs at NECC.

Credit for Life Learning

The Credit for Life Learning policy provides the opportunity to award college credit to students who demonstrate that their knowledge and skills are equivalent to those gained in a course or courses offered by the college.

Students interested in credit for life learning should contact the Registrar's Office for the appropriate forms. The process for obtaining credit for life learning is individualized and may include a challenge examination, one or more personal interviews or preparation of a portfolio.

CLEP Credit

Northern Essex Community College awards credit in certain predetermined subject areas of the College Level Examination Program (CLEP). CLEP information is available in the college's Assessment Center (the telephone number is (978) 556-3872). Students should submit CLEP transcripts to the Admissions Office for evaluation of CLEP credit. Northern Essex will award CLEP credits earned by the achievement of the required scores as follows:

CLEP Exams

English Composition (with essay)*	Credits 6	Semesters 2	Score Needed 420
College Mathematics	Credits 6	Semesters 2	Score Needed 420
Humanities	Credits 6	Semesters 2	Score Needed 420
Natural Sciences	Credits 6	Semesters 2	Score Needed 420
Social Sciences and History	Credits 6	Semesters 2	Score Needed 420

*Northern Essex accepts only Composition with Essay given January, April, June and October.

Tests are administered at the college monthly except in December and February; schedules are available at the Assessment Center, Room C208, Spurr Building.

Testing is by appointment only and applications will be accepted no later than 10 working days prior to the test week.

Subject Examinations

CLEP Exam	NECC Equivalent	Credits	Semester	Score Needed
Principles of Accounting	AC6610/AC6611 Intro Accounting I/II	6	2	45
American Government	GV3310 American Government & Politics	3	1	47
History of U.S. I: Early Colonization /1877	HI9913 U.S. History I	3	1	47
History of U.S.II: 1865 to the Present	HI9914 U.S. History II	3	1	46
Biology, General	BI5515/BI5525 Introductory Biology I & Biology II	8	2	46
Intro Business Law	LW6651 Business Law I	3	1	51
Chemistry, General	CH5501/CH5502 General Chemistry I & II	8	2	47
College Algebra & Trigonometry	MA5621 College Algebra & Trigonometry	4	1	45
College Level French Language	FR4401/FR4402 Intro French I & II	6	2	39
	FR4451/FR4452 Intermediate French I & II	12	4	45
College Level German Language	GM4401/GM4402 Intro German I & II	6	2	36
	GM4451/GM4452 Intermediate German I & II	12	4	42
College Level Spanish Language	SP4401/SP4402 Introductory Spanish I & II	6	2	45
	SP4451/SP4452 Intermediate Spanish I & II	12	4	50
Information Systems & Computer Applications	CT6626 Introduction to Information Processing w/BASIC	4	1	52
Human Growth & Development	PS1205 Human Growth & Development Through Adolescence	3	1	45
Principles/Micro-Economics	EC3322 Micro-Economics	3	1	41
Principles/Macro-Economics	EC3323 Macro-Economics	3	1	44
Principles/Management	MG6666 Principles of Management	3	1	46
Principles/Marketing	MK6678 Principles of Marketing	3	1	50
Intro. Psychology	PS1101 Introduction to Psychology	3	1	47
Intro. Sociology	SO3321 Introduction to Sociology	3	1	47
Western Civilization I: Ancient Near East 1648	HI9901 Western Civilization I	3	1	46
Western Civilization II: 1648 to the Present	HI9902 Western Civilization II	3	1	47

TUITION AND FEES

Mandatory tuition rates for Northern Essex Community College are established by the Board of Higher Education of the Commonwealth of Massachusetts. The Northern Essex Community College Board of Trustees authorizes discretionary fee schedules for the college. Increases in both tuition and fees may occur in future semesters and other unique fees may be charged.

With the exception of specific programs or courses, such as the Evening Nursing courses, all credit courses, regardless of meeting time, are charged the same cost per credit, based on the student's legal residence.

MASSACHUSETTS RESIDENT (Tuition Portion: \$34 per credit hour)	\$81.00
Non-Resident Qualifying for the New England Regional Student Program (Tuition Portion: \$51 per credit hour)	\$98.00
Non-Resident and Foreign Student (F-1 Visa) (Tuition Portion: \$204 per credit hour)	\$251.00
Nursing Courses (Non-State Supported) only Massachusetts Resident—Per credit hour	\$147.00
Non-Resident—Per credit hour	\$193.00

NON-CREDIT (SPECIAL INTEREST) COURSES
Tuition for these courses varies, depending upon length of course; materials fees may be required.

ADDITIONAL FEES THAT MAY APPLY	
Mandatory Health Insurance— Academic year 9/1/97 through 8/31/98	\$395.00
Malpractice Insurance Fee— For courses requiring this coverage	\$14.50
Testing Fees— Charged to a limited number of allied health courses	variable
Graduation Fee—	variable
Transcript Fee— Per copy	\$1.00
Bad Check Fee— Per bad check	\$10.00
MASSPIRG— Per semester (optional fee)	\$5.00
S.S.A.M.— Per semester (optional fee)	\$2.00

A description of MASSPIRG and S.S.A.M. can be found on page 16.

Refund Policy

Due to recent changes in administration as well as the installation of a new computer system, the College will adopt a date-driven refund policy. These refund dates will be published in the academic calendar.

Financial Aid Refund Policy

For financial aid recipients who are first time credit course enrollees at Northern Essex Community College, the refund policy is applied according to current federal regulations. For further information contact the Financial Aid office.

Residency and Tuition

Students must be legal residents of Massachusetts to be eligible for the in-state (resident) tuition rate. Non-residents pay a non-resident tuition rate set by the Board of Higher Education. In general, one is considered a Massachusetts resident if one has been in continuous residence in Massachusetts for six months immediately prior to the beginning of an NECC academic term. Foreign students are not eligible to be Massachusetts residents. For more information about residency, contact the Admissions Office at (978)556-3600. For more information about tuition and fees, contact the Bursar at (978)556-3895.

New England Regional Student Program

Prospective students may be eligible for participation in the New England Regional Student Program (RSP) if a program of study is not offered in their home state; if Northern Essex Community College is closer to their legal residence than their home state institution; and if the program of study is open under the RSP. Students must be legal residents of a New England state, qualify for, and be accepted through, the Regional Student Program (RSP) of the New England Board of Higher Education to be eligible for the NERSP rate. For more information about the New England Regional Student Program, contact the Admissions Office.

Mandatory Health Insurance

The Massachusetts Mandatory Health Insurance Law requires that all students carrying nine credits or more must participate in the Massachusetts Regional Community Colleges' Student Accident and Sickness Insurance Plan or in a health insurance program with comparable coverage. Students who have comparable coverage may waive this fee.

Financial Aid Tuition Waiver Awards

Tuition Waivers, awarded by the Financial Aid Office to Massachusetts residents only, may be used to defray tuition costs at the current rate of \$34.00 per credit, subject to change.

Massachusetts National Guard Tuition Exemptions

Members in good standing of the active Massachusetts Army or Air National Guard, are eligible for tuition waivers in accordance with Chapter 15A and Chapter 33 of the Massachusetts General Laws. This tuition waiver may be used to pay for state-supported courses only, at the current rate of \$34.00 per credit, subject to change.

Veterans Tuition Exemptions

Veterans Tuition Exemptions may be used to defray tuition costs at the current rate of \$34.00 per credit, subject to change. Check with the Veterans' Benefits Coordinator in the Financial Aid Office to determine eligibility for this program.

Gold Card/Senior Citizens Exemptions

Any Massachusetts resident aged 60 or older may take courses on a seat-available basis, with a current exemption of \$34.00 per credit, subject to change. In the case of non-credit (special interest) courses, only materials fees, if applicable, must be paid.

Commonwealth of Massachusetts Tuition Remissions

Tuition Remission (Exemption) benefits offered to certain state employees and their dependents are applicable in the state-supported (Day Division) courses at the rate of \$34.00 per credit and in non-state supported (Continuing Education Services) courses at the rate of \$17.00 per credit. These rates are subject to change.

Installment Plan

Northern Essex Community College offers the Academic Management Services plan (A.M.S.) for those students who might prefer to budget their college expenses in the Fall and Spring semesters, at a cost of \$30.00 per semester. There are no other interest or fee charges.

Third Party Payment

Students whose accounts will be paid in full or in part by a third party provider such as Massachusetts Department of Rehabilitation, private scholarship, employee tuition plan, etc. must submit proof of unconditional payment guarantee.

MASSPIRG

MASSPIRG (Massachusetts Student Public Interest Research Group) is a non-profit environmental and consumer organization directed solely by students. MASSPIRG was founded in 1972 and now has chapters on twenty-eight campuses throughout Massachusetts. Students at Northern Essex voted to establish a MASSPIRG chapter in the fall of 1990. Some of MASSPIRG's more recent accomplishments include passage of the Massachusetts Clean Air Act, passage of legislation requiring reduced use of toxic substances, and enactment of new and used car lemon laws. MASSPIRG is able to do this work because students have voted to fund the organization through a waivable fee on their tuition bill.

S.S.A.M.

S.S.A.M. (the State Student Association of Massachusetts) is an organization consisting of students from the institutions of public higher education funded by the Commonwealth of Massachusetts. The purpose of this organization is to create a working alliance among these students through their schools in order to represent their views and concerns to the General Court, to the Commonwealth, and to the citizens of Massachusetts. The goal of S.S.A.M. is quality, low cost public higher education which is accessible to all citizens of the Commonwealth.

Audit of Classes

The cost to audit credit courses is the same rate as listed under Tuition and Fees. To audit a course, obtain a Permission to Audit form at the Registrar's Office.

Charge-A-Course

(MasterCard/VISA/Discover)

Students may charge tuition and fees for courses taken at Northern Essex Community College.

Non-Payment Policy

It is the policy of the Board of Higher Education that students or former students who are listed by the Bursar's Office as having unpaid debts for tuition or other college-related charges, where said debts have not been discharged by operation of law or where deferred payment of said debts has not been agreed to by said college will not (1) be issued any diploma to which said students might otherwise be entitled; (2) be permitted to register for any program at any state college for which said students might otherwise be eligible; and (3) be furnished a certified copy of any state college transcript, although said students will be entitled, upon written request, to inspect and review uncertified copies of their transcripts.

Withdrawal from College

Matriculated students who have been accepted to a college program and must discontinue their studies, must officially withdraw in writing, by completing a Withdrawal from College form. Forms are available in the Admissions office and the Registrar's office.

FINANCIAL AID

The function of the Office of Financial Aid is to provide information about student financial assistance programs for those students who would otherwise be unable to attend college because of economic limitations. Based on an individual's financial need, the Office of Financial Aid allocates funds to assist eligible students in paying for the cost of their college education. Assistance is provided through several sources and a student may receive a combination of more than one type of aid. The amount and type of financial aid a student receives is subject to the allocation levels of the various aid programs and is governed by federal, state and college regulations. A student must be enrolled in a degree or certificate program in order to receive financial aid.

Applying for Financial Aid

To apply for all financial aid funds awarded by NECC, a student must submit a Free Application for Federal Student Aid (FAFSA), a Financial Aid Verification Worksheet, and all appropriate income verification documentation. Applications are available year-round; however, due to limited funding, students are urged to apply early. Applications filed prior to April 24 for the Fall semester will receive priority. Students applying for aid for the first time for the Spring semester should complete the application process prior to November 1.

How Need is Determined

Financial Aid is awarded on the basis of financial need. Financial need is the difference between the estimated cost of attendance and the calculated amount the student and family can reasonably be expected to provide based on the FAFSA. The estimated cost of attendance includes tuition, fees, books, room and board, transportation, supplies, and personal expenses. The student and family contribution is affected by taxable and untaxed income, assets, number of dependents, number in the household, the number of family members in college and other necessary or unusual expenses.

Eligibility

In order to be eligible a student must meet all of the following criteria:

1. demonstrate financial need;
2. maintain satisfactory academic and financial aid progress;
3. be enrolled in a degree or certificate program;
4. be enrolled on at least a half time basis (6 credits) if applying for a student loan, and at least 3 credits for a Pell Grant, depending on financial need;
5. be a U.S. citizen or eligible noncitizen;
6. not owe a refund on a Federal Pell Grant or be in default on a Federal Perkins Loan (formerly NDSL), Federal Stafford Loan (formerly GSL), Parent Loan for Undergraduate Students (PLUS) or Supplemental Loan for Independent Students;
7. have a valid social security number;
8. have a high school diploma or a General Education Development (GED) certificate or must pass an independently administered test and have the ability to benefit (see Admissions);
9. be registered with the Selective Service, if required.

Financial Aid Award Package

An award package may be a combination of any of the following aid programs. A Free Application for Federal Student Aid (FAFSA) must be completed to receive consideration for these awards. Priority is given to those students who file on or before April 24.

Federal Pell Grant

A program funded by the federal government. Once an applicant has completed the application process, a Student Aid Report (SAR) will be sent directly to the applicant. The award amount will be based on the student's enrollment status and the calculated family contribution. All pages of the SAR must be sent to the Office of Financial Aid before an applicant can receive a grant.

Massachusetts Need Based Tuition Waiver Program

The tuition waiver award is made to students with financial need. This award will waive the tuition charge up to the amount awarded. Financial need is determined by the Office of Financial Aid using the federally approved needs analysis system. Students receiving this award may be limited to tuition waivers for state-supported classes. Recipients must be Massachusetts residents.

Federal Supplemental Educational Opportunity Grant

A grant for students who would be unable to attend school without this aid. This award is limited to undergraduate students receiving Pell Grants. Students with a bachelor's degree are not eligible for this aid.

Massachusetts State Scholarship

Awarded to needy students who are Massachusetts residents. The priority filing date is May 1st. This program is administered by the Board of Higher Education and utilizes the FAFSA as the application form.

Federal Work-Study

Provides an opportunity for students to work on campus. Funds are awarded to students with the greatest need. Jobs are on campus and attempts are made to find vocationally related positions. Students are paid every two weeks for the hours they have worked.

Federal Stafford Loan Program

A low-interest, long-term loan available through participating banks. The variable interest charge for new borrowers will be paid to the bank by the federal government while students are in school and during a six-month grace period after leaving school. This loan is based on financial need. An unsubsidized Federal Stafford Loan is available to students who do not demonstrate financial need.

Federal Unsubsidized Stafford Loan

A federally guaranteed loan available to "independent" students to help meet costs of education. Current interest rates are about 8%. The guarantee fee is 1%. Repayment begins within 30-45 days after disbursement and the term is up to 10 years with a \$50 monthly minimum payment. Some banks will allow the deferment (capitalization) of the interest and principal during enrollment periods.

Federal Parent Loan Program

A federally guaranteed loan available to parents of "dependent" students to help meet the costs of education. Features and conditions are the same as Federal Supplemental Loan described above.

The Educational Resources Institute Supplemental Loan Program

TERI loans are independent of federal funds so there is no needs test requirements and no income limits. TERI loans may be obtained for the cost of education minus other financial aid awarded, if any. TERI loan approval is based on the lender's review of the family's credit worthiness.

Satisfactory Academic Progress

The United States Department of Education has established regulations regarding satisfactory academic progress for use in the awarding of student financial assistance. These regulations provide parameters for institutions to use in establishing their specific standards of satisfactory progress for purposes of awarding student financial assistance (Federal Pell Grant, Federal Supplemental Educational Opportunity Grant, Federal Work Study, Federal Stafford/PLUS Loan, State Student Incentive Grant Programs, and other financial aid programs offered by the college). Students who are not making satisfactory academic progress are prohibited from receiving financial aid. A complete copy of the Northern Essex Community College criteria for determining satisfactory academic progress is available in the Financial Aid Office.

Additional Scholarship Sources

In addition to the need based aid programs administered by the Office of Financial Aid, NECC students may wish to apply to one or more of the following scholarship programs. Application information is available in early Spring.

NECC Faculty Association Scholarship

For returning and graduating students with a 3.00 grade point average or greater.

NECC Foundation Scholarship

Scholarships are awarded to students with a 3.5 grade point average or greater.

NECC Alumni Association

A \$500 scholarship award is made to one or more NECC students each year.

The NECC Administrators' Association Scholarship

Two \$300 scholarships are awarded annually to students who have completed 24 credits with a minimum 3.0 QPA.

The NECC Staff Association Scholarship

A \$500 and two \$250 scholarships for a transferring student who has completed at least 48 credits with a 3.0 grade point average or greater.

Alumni Overseas Academic Program Scholarship

An annual award of \$250 to a student who will be enrolling in the Overseas Academic Program. The recipient must have a grade point average of 3.0 and have completed at least 30 credits.

The James P. "Jake" Rurak Memorial Scholarship

A scholarship to honor the memory of James P. Rurak, his efforts as a State Senator in establishing Northern Essex Community College, and his contributions to the people of the Commonwealth of Massachusetts. Established for students interested in a career in community or public service.

The Francis J. Bevilacqua Scholarship

A scholarship in honor of Francis J. Bevilacqua who spent so much of his life serving the public. Awarded to current NECC students with a 3.0 grade point average who are residents of Haverhill and who have demonstrated involvement in, or preparing for careers in, public service.

Massachusetts National Guard

Tuition Waiver Program

National Guard waiver of tuition is available to those who are in a Massachusetts National Guard Unit. This waiver is applied only to the tuition portion of the bill, up to 15 credits; however, all fees must be paid. If you have any questions, contact the Veterans Affairs representative in the Financial Aid Office at (978) 556-3769, or -3737.

Soroptomist Foundation Scholarships

This award is to promote upward mobility in mature women who would like to enter college after being out of the work force for a number of years.

Dental Assistant Scholarships

The Milton J. Myers

Memorial Dental Scholarship

The Dr. Bill Gemmell

Memorial Dental Scholarship

The Merrimack Valley

Dental Society Scholarship

The three Dental Assistant Scholarships are to provide funds for Northern Essex Community College students interested in the dental profession who would not otherwise be able to afford a college education. Each of the three scholarships of \$400 will be awarded annually.

The Louis A. Gigliotti Memorial Scholarship

(\$200) is awarded to students with disabilities in the memory of Lou Gigliotti, a student at Northern Essex.

The Raney Family Memorial Scholarship

(\$200) is awarded in the memory of Margaret Raney, a former member of Northern Essex faculty and her son, Joseph.

Adonica Kelleher Memorial Scholarship

This scholarship is awarded to a disabled student from the Amesbury/Newburyport area who is majoring in Business. The award criteria is based on prior academic achievement. The award is for \$200 a year (\$100 a semester). Applications are available in early April.

Veterans and Service Persons Club Scholarship

Awards for each academic year are ten \$100 scholarships for students (day or evening) who are "service connected", demonstrate financial need, earned 12 college credits in good standing and received a recommendation from a faculty member or Veterans and Servicepersons Club member.

The Future Educators Scholarship

A scholarship of \$100 is awarded to encourage and support students in pursuing a career in teaching. The recipient has completed a minimum of 24 credits, has a 3.0 cumulative grade point average in all college level courses.

The President Emeritus Harold Bentley Memorial Scholarship

This award for \$500 is presented annually to a Northern Essex Community College student who demonstrates excellence in oral communication skills. The purpose of the President Emeritus Harold Bentley Memorial Scholarship is to honor the character and values of President Emeritus Harold Bentley.

The John H. Spurr Memorial Scholarship Award

This award for \$500 is presented annually to a matriculated student in the Liberal Arts program, who has completed 12 or more credits, is a resident of the Merrimack Valley, and has earned a grade point average of 3.2 or better. The John H. Spurr Memorial Scholarship Fund is established in honor of Dr. Spurr, Professor of History and Government at Northern Essex since 1967, who passed away in December, 1991.

The Noela and Dennis Murphy Nursing Scholarship

This award is equivalent to the amount of the tuition and fees for Nursing III. It is offered to day nursing students entering Nursing III who demonstrate clinical expertise, compassion and caring that serves as a continuing reminder of the ideals and sensitivity displayed by Dennis and Noela Murphy.

The Friends of NECC Scholarship

Scholarships are awarded on a funds available basis (\$100 or more). Awards are to be applied toward tuition and fees or books. These scholarships are to be awarded to a returning student who has proven academic excellence (minimum 3.0 QPA) and distinctive contributions to NECC and the community.

The LPN Class Scholarship

\$250 is awarded to two students entering the final semester of the program who demonstrate financial need and have achieved a 2.5 QPA or better by the end of the spring semester.

The NECC Science and Technology Club Scholarship

An annual award of \$100 is offered to a student enrolled in a science or technology program who has completed between 24 and 40 credits with a 2.7 QPA or better.

The NECC Study Abroad Scholarship

An award of \$600 is offered to students participating in the Study Abroad academic program who have earned a minimum of 12 credits with a 3.0 QPA or more.

Veterans and Active Duty Service Persons

Students who are veterans, active reservists, on active duty with the National Guard or eligible dependents of a veteran may be eligible for educational benefits through one of the programs summarized below:

Federal GI Benefits: Monthly allotment to eligible veterans who entered the service after July 1, 1985.

Two for One Program: Federal benefit that provides for monthly allotment to eligible Veterans who entered the service after January 1, 1977.

Chapter 106 GI Benefits: Monthly allotment to eligible Active Duty National Guard or Active Duty Reservist who entered the guard or reserves after July 1, 1985 with a six year obligation.

State Tuition Exemption Program: A benefit available to certain categories of Veterans who served during a conflict and have resided in Massachusetts for at least one year immediately prior to going to school.

For more information about veterans services and benefits, contact the Financial Aid office, telephone (978) 556-3769, or -3737.

STUDENT LIFE

The Student Center, the Sport and Fitness Center, and Spurr Building serve as the base for co-curricular activities at Northern Essex.

Co-curricular activities and services in the Student Center include the Student Activities office, Student Senate office, the student newspaper, a lounge area, a student theater for viewing films and movies, the cafeteria, and the college bookstore. The cafeteria includes a stage area for small concerts, awards ceremonies and college fairs. Offices providing essential student services include the Counseling Center, the Learning Accommodations Center, Deaf and Hard of Hearing Services, Supported Education, and Health Services.

The Sport and Fitness Center houses the College Game Room featuring pool and ping-pong tables, a lounge area and a snack bar; the Campus Recreation program; the intercollegiate athletic program, the Wellness/Fitness Center, and the College dance program (Stillpoint Dancers). Adjacent to the Sport and Fitness Center is an outdoor track, a soccer field, baseball field, softball field, an outdoor basketball court and handball courts. The Athletic Department, the Department of Sport and Leisure Studies, the Little Sprouts Childcare Enrichment Center, and the College Life and Healthy Living Unit Office, are all located in the Sport and Fitness Center.

Jitters Cafe and the Top Notch Theater are located in Spurr Building. Cafe entertainment includes performances by comedians, folk artists and jazz singers. The Top Notch Theater, located on the third floor of the Spurr Building, is home to the Top Notch Players, the College's student theater group.

Student Activities Department

Through involvement in extra-curricular activities, students have opportunities to gain and develop leadership skills, create new friendships, and become more socially responsible and culturally enriched.

Activities and opportunities available through the Student Activities Department include the Student Government Association, over 25 clubs including academic/social/creative arts clubs, the student newspaper (Observer), and the student literary magazine (Parnassus).

Other programs available to students include the Student Leadership Development Program and the Student Development Program. For more information on programs and services offered through the Student Activities Department call (978) 556-3731.

Student Senate

The Student Senate is the elected body of the Student Government Association (SGA) and is governed by the SGA Constitution and Bylaws. The Student Senate works as a team to promote the rights of students and acts on the concerns of students. Members of the Student Senate participate in national conferences, leadership retreats, seminars and community programs which provide valuable transferable skills. For information on how to become a member of the Student Senate, contact the Student Activities Department at (978) 556-3731.

Student Identification Card

Student Identification cards are issued for new students through the Student Activities Department. The Student Identification Card enables students to take out library material and audio visual equipment, gain admittance to the Sport and Fitness Center facilities, take out intramural/recreation equipment and receive discounts at certain area businesses. To report a lost identification card, contact the Student Activities Department.

Housing

Housing facilities are not provided by or supervised by Northern Essex Community College. The Student Activities Department maintains a list of housing in the immediate college area available to students. Bulletin boards listing housing availability are located opposite room F-135 on the Haverhill campus and opposite room 134 on the Lawrence campus.

Intercollegiate Athletics and Campus Recreation

The intercollegiate athletic programs at NECC combine a rich tradition of success at the state, regional, and national level with a Division III philosophy. The Athletic Department offers women's soccer, women's volleyball, baseball, men's basketball, women's basketball, and cheerleading. Club sport programs are developed in accordance with student interest.

The Campus Recreation program offers a variety of competitive and noncompetitive sports, outdoor activities, and Game Room programs. Intramural sports include flag football, indoor soccer, co-ed volleyball, floor hockey, three-on-three basketball and foul shooting contests. Outdoor activities include hiking, rock climbing, mountain biking, cross country skiing, canoeing, snow tubing and deep sea fishing. Aerobics classes, bowling, ping-pong and billiards round out the recreational offerings at Northern Essex. For more information on intercollegiate athletics or the Campus Recreation program, contact the Athletic Department at (978) 556-3820.

The Wellness/Fitness Center features Eagle Cybex strength training equipment, free weights and cardiovascular equipment including treadmills, stairclimbers, stationary bicycles, and rowing ergometers. Throughout the academic year the Center offers motivational programs, fitness classes, and wellness workshops. The Coordinator of the Wellness/Fitness Center is available for one-on-one exercise counseling by appointment. For more information on the Wellness/Fitness Center call (978) 556-3819.

Child Care Service

IN HAVERHILL

Professional child care services are available on the Haverhill campus at Little Sprouts Child Enrichment Center located in the Sport and Fitness Center. From the indoor space which promotes discovery and learning to the custom-designed outdoor playground, the Center is an ideal environment for children. The Center offers full day care, 6:00 a.m. to 6:00 p.m. for children from four weeks of age through age nine. Full, part time and flexible childcare hours are arranged to meet individual needs. Tuition assistance is also available to those eligible for the state-funded voucher program to student parents who meet financial assistance eligibility guidelines, and through the Max Feigenbaum Scholarship Fund. For more information, call (978) 556-6133.

IN LAWRENCE

Regular and drop in child care is available at the Campus Learning Center located at the Lawrence Campus. The Campus Learning Center offers quality child care during daytime hours in a facility specially designed for children.

Care is available Monday through Friday mornings from 8:00 a.m. to 1:00 p.m., and afternoons from 1:00 to 5:00 p.m. Tuition assistance is available for those demonstrating financial need. For more information, contact the Director at (978) 689-9980.

Other Resources and Referrals

Childcare Circuit: Provides referrals to openings in licensed childcare centers in the Merrimack Valley and helps parents locate and evaluate suitable services. There is a nominal fee, but you may qualify for a waiver. Information can be obtained at the Childcare Circuit, 190 Hampshire Street, Lawrence, MA 01840, telephone (978) 686-4288.

Family Day Care: Information about services and programs can be obtained by calling the Greater Haverhill Family Day Care Associates local volunteer referral service coordinators at (978) 372-8141.

Tuition Assistance: Available to those eligible for the Day Care Voucher Reimbursement Program. Contact the Childcare Circuit, 190 Hampshire Street, Lawrence, MA 01840, (978) 686-4288.

Special Problems: Judith Tye, Coordinator of Early Childhood Education at NECC, is available to help those who have questions or particular problems connected with childcare needs. The Early Childhood office is located in the Spurr Building, Room C-314N, telephone (978) 556-3369.

NECC Health Services

NECC Health Services works to promote healthy behaviors and lifestyles through health education programs and services. Weekly informal outreach tables are scheduled on each campus to provide health education, and health screenings, and to make referrals to community health care agencies, testing sites, and clinics. Special emphasis is given to HIV education and information, and to substance abuse education and prevention.

Health Services also provides first aid and emergency care to the campus community. Over-the-counter medicines for colds, headaches, and upset stomach are available for a nominal fee.

New services include immunizations, cholesterol screenings, seasonal flu shots, American Heart Association CPR classes and Complementary Health Services (commonly referred to as alternative or holistic therapies).

SPECIALIZED STUDENT SERVICES

Counseling Center

Counselors help develop and support students' abilities to succeed academically and personally. Supportive counseling is provided in times of crisis, and for personal growth and development.

Individual counseling is available on a walk-in basis, or appointments may be scheduled. Group counseling is also offered. Call for details (978) 556-3790 (voice) or (978) 556-3659 (tty). The standard practice is short-term counseling and referral to community agencies and organizations.

Information shared in counseling sessions is kept in confidence, consistent with applicable federal and state laws, and with the American Counseling Association Code of Ethics and Standard of Practice.

Deaf and Hard of Hearing Services

The following are among the services available:

- interpreting/CART services;
- notetaking services;
- assistive listening devices;
- academic and personal guidance;
- access advocacy;
- testing accommodations;
- cultural awareness training
- special events and activities; and
- individualized services as needed.

All Northern Essex interpreters are professionals who are certified by the National Registry of Interpreters for the Deaf, or who have passed a state quality assurance screening. Computer Aided Real Time captioning (CART) and assistive listening devices (FM systems) are provided as necessary.

Deaf and Hard of Hearing Services maintains a close working relationship with the Learning Accommodations Center at Northern Essex Community College, the Massachusetts Rehabilitation Commission and the Northeast Independent Living Program in Lawrence which provides independent living skills assistance to students within Northeastern Massachusetts. For services call (978) 556-3658 (voice) or (978) 556-3673 (tty).

Supported Education

Supported Education is a program of individualized support for otherwise-qualified students who have neurological or psychiatric disabilities. Participants are helped to set and achieve educational goals by a personalized combination of services, including:

- assistance with enrollment procedures and course selection;
- academic and supportive advising;
- coordination with, and referral to, community services;
- academic accommodations;
- social skills refinement; and
- training and support for faculty and staff.

Prospective students are encouraged to contact the program as early as possible prior to planned entrance to NECC. Documentation of disability and an intake interview are required prior to the delivery of services. Call (978) 556-3674.

Women's Network

The Women's Network is a place for NECC women students and prospective students, faculty and staff. It is also an information and referral source for support systems and resources available at the college and in the community. Education and support is offered around domestic issues, women's health, and other gender-related issues.

Women considering returning to school may begin at the Network in their process of transition to becoming a NECC student. The "Women Returning to School Program" is specifically designed to provide women with information, support and resources to begin and complete a successful academic program that satisfies their personal and career needs. Call (978) 556-3832.

Enrolled students enjoy the Network as a place to connect with other women, and to learn more about what's needed to succeed academically, socially and vocationally.

Learning Accommodations Center

Northern Essex Community College is committed to providing equal access to education for eligible students with disabilities through the provision of reasonable learning accommodations. The Learning Accommodations Center administers these accommodations which are made available on a semester by semester basis to physically challenged students and those with diagnosed learning disorders. A fuller description of services available, admissions procedures, eligibility criteria, documentation requirements and student responsibilities are set out in detail in the Center's handbooks and brochures. Accommodations can include:

- classroom and testing accommodations such as assistive technology and auxiliary aides, writing supports, auditory devices, computer peripherals, adapted classroom equipment and/or furniture, quiet room, tape recording, extended time;
- mediation between student and faculty/staff;
- skills training including self advocacy & study skills.

It is recommended that disclosure of disability is made as early as possible during the admission process to enable accommodations to be available both during assessment testing and at the beginning of each semester. (The College prohibits discrimination on the basis of disability and a student is not required to disclose disability.)

The Center also provides training, support and acts as a resource of expertise to faculty, staff, administration, the community, and consults with high schools and agencies.

CURRENT STUDENTS AND NEW APPLICANTS

Obtain list of documentation required and student responsibility information from the Learning Accommodations Center (978) 556-3654 or (978) 556-3655 (tty). Then forward required materials to:

Northern Essex Community College
Director, Learning Accommodations Center
Elliot Way
Haverhill, MA 01830

CONTINUING EDUCATION SERVICES

The primary goal of Continuing Services is to help people improve existing skills or learn new ones and grow in understanding and in personal satisfaction.

Non Credit Special Interest Classes

Non-credit Special Interest classes are offered for self enrichment and skill development and cover a variety of topics including entrepreneurship, career growth, languages, finance, computers, health, gardening, arts and crafts, music and dance, cooking, and sports and fitness. These courses are offered at the Haverhill and Lawrence campuses, at extension campuses in Andover, Newburyport, Methuen, Haverhill and a various off campus sites throughout the Merrimack Valley.

Continuing Education Units

Continuing Education Unit (C.E.U.) credit is available through courses offered to health professionals including nursing, social work and mental health.

Licensing and Recertification

Continuing Education Services also provides courses for professional and trade licensing and recertification including electrician license preparation and recertification, plumbing license preparation, manicuring licensing and cosmetology licensing. Computer training provides skill development in the most popular computer applications.

GED Testing and Preparation

GED Testing and Preparation for the high school equivalency Diploma is available each semester for individuals who need to achieve a high school credential.

Life Long Learning

Life Long Learning provides, throughout each semester, informative lectures, programs, study groups and trips for older adults.

Project Safe Communities

Project Safe Communities sponsored by the Governor's Highway Safety Bureau promotes the use of seat belts, child car seats and bike helmets as well as other safety issues in collaboration with Merrimack Valley's enforcement and municipal agencies.

Motorcycle Rider Education

Motorcycle Rider Education, also sponsored by the Governor's Highway Safety Bureau and in cooperation with NECC and administered by Ironstone Ventures, LTD. and using the Motorcycle Safety Foundation curriculum, provides the individual, with little or no rider experience, low cost basic riding skills, street strategies, motorcycle control and preparation and safe rider issues in both classroom discussion and actual practice sessions with program provided motorcycles.

Small Business Development

The Massachusetts Small Business Development Center is a partnership with the U.S. Small Business Administration, the Executive Office of Economic Affairs, the U-Mass/Amherst School of Management and Salem State College in cooperation with NECC provides one-to-one counseling assistance to small businesses or prospective small businesses free of charge at NECC.

Center for Business and Industry

The Center for Business and Industry provides on campus or on site training programs especially designed to meet the needs of business and industry. CBI is also affiliated with the Consortium for Supplier Training, New England Supplier Institute, Massachusetts Manufacturing Partnership, CPE Institute and the National coalition of Advanced Technology Centers. Continuing Education Services also sponsors workshops, conferences and courses for local organizations and agencies.

Gallaudet University Regional Center

Gallaudet University Regional Center at NECC is an extension of Gallaudet University of Washington D.C. and provides information and continuing education to the deaf community, their families and service providers in the Northeast Region of the U.S.

For additional information on any of the above programs or services please call Continuing Education Services at (978) 556-3800.

ACADEMIC SUPPORT

Academic Advising

FACULTY ADVISORS

All students who are matriculated (formally enrolled) in an academic program and who are taking at least one class Monday through Friday before 5:00 p.m. are provided with a faculty advisor. The faculty advisor is usually a member of the academic department in which the student is enrolled. They may assist students with such things as: course selection and registration, information regarding careers in their major field, general information about college resources and support services, and transfer assistance. It is the role of the advisor to help students utilize the resources of the college and the community in order to achieve their academic, career and personal goals.

ACADEMIC ADVISING CENTER

The Academic Advising Center exists to provide Saturday, evening, and unclassified students (those students who have not decided or enrolled in an academic program) with academic advising. The Center also supplements the delivery of academic information for new and returning students who need questions answered when their assigned advisor is not available.

The Academic Advising Center provides:

- Information about Academic Programs
- Information about course requirements and electives
- Help with course selection and registration
- Assessment of courses needed to complete academic program
- Transfer information
- Referral to College Support Services
- Information about alternative ways to earn credit

Academic Support Center

The Academic Support Center assists students in developing the skills necessary to succeed in college. The Academic Support Center offers drop-in services in reading, writing and math, as well as assessment of skills, academic guidance and tutoring in the content areas.

- The Assessment Center helps students become aware of their ability levels in the areas of reading, writing and mathematics. Such awareness is crucial for future success in a college environment. Students and prospective students may make arrangements for assessment testing in basic skills and English as a second language, learn about developmental courses available at Northern Essex and, if qualified, make arrangements for private peer tutoring. The College-Level Examination Program (CLEP) is offered through this Center. Students who are interested in assessing and improving their academic skills are invited to visit or contact the Assessment Center, Room C-208. The number is (978) 556-3872.

- The Peer Tutor Program is a service provided to eligible students in need of help in their content area courses. For more information, contact Peer Tutoring Service in Room C-208. The number is (978) 556-3411.

- The English Language Center provides tutoring support to students who need to build English language skills. For more information, contact the ELC in Room C-207 at the Haverhill campus, or at the Lawrence campus, L200. The number in Haverhill is 978-556-3408. The number in Lawrence is (978) 738-7424.

- The Math Center is a dynamic and vibrant drop-in and support center for students enrolled in all math courses ranging from basic math through calculus. It is staffed by a group of educators who have been selected because of their high commitment to meeting the needs of students. Services in the center are free to all students enrolled in courses at NECC and are offered during posted hours. Ser-

vices are provided at both the Haverhill Campus and the Lawrence Campus day and evening. For more information contact the Math Center, Room C-201. The number is (978) 556-3848.

- The Reading Center assists individuals in developing effective reading and study skills. Students enrolled in basic reading or college reading are helped through the Center. Assistance on a drop-in or referral basis is also provided for students with specific requests. For more information contact the Reading Center, Room C-211. The number is (978) 556-3844.

- The Writing Center provides individualized tutoring to students who need assistance with writing tasks. Intervention is offered at each step of the writing process from help with starting a paper, through the drafting of ideas, to editing a final draft. Services are available to all students on a drop-in basis. For more information, contact the Writing Center, Room C-205. The number is (978) 556-3406 or 3407.

- Set your PACE! Pathway to Academic and Career Excellence (PACE) is a federally funded program that assists in developing the personal and academic skills necessary to graduate. Services are available for first generation college students in need of academic and financial assistance. The PACE office is located in Room C-200 or call (978) 556-3403.

Northern Essex Libraries/Bentley and Lawrence Campus

The Northern Essex Community College Libraries serve the varied informational needs of the students, faculty and staff of the college. The Libraries support the College's academic programs and provide for the research needs of students as well as the professional development of the faculty.

At the Bentley Library, located on the Haverhill Campus, there are more than 60,000 volumes in the reference and circulating collections. In addition to a collection of 400 journals, the Library subscribes to several electronic periodical databases which include the full-text of articles from thousands of journals and newspapers. At the Lawrence Campus Library, there are more than 6,000 volumes

primarily in the areas of nursing, allied health, criminal justice and law. The library subscribes to 80 journals and also shares access to the Bentley Library's electronic resources. World Wide Web access is available at both Libraries.

Library patrons at both libraries can search for books by using the computerized Public Access Catalog (PAC). This database offers a complete list of Library holdings of Northern Essex and University of Massachusetts/Lowell.

The library staff provides reference and interlibrary loan service. In addition, Librarians provide instruction to groups and individuals on the research process and on strategies for locating library and electronic resources. Students and faculty are able to use other Massachusetts public colleges and university libraries, as well as area libraries. Additional educational resources are available through the Library's involvement in consortia that include most of the public and academic libraries in Eastern Massachusetts.

Professional staff are on duty during the hours the library is open. The library is closed every Sunday and all federal and state holidays.

Center for Instructional Technology

The Center for Instructional Technology works to meet the non-print needs of the college community by providing a full range of audiovisual materials and production services.

The CIT maintains a large, comprehensive collection of educational media materials in a variety of presentation formats. The materials include 16mm films, videotapes, filmstrips, slide programs, audio cassette tapes, records, and overhead transparencies. A software catalog is available at the CIT.

Production services include television, photographic, and multimedia program development. A director, technical staff, and work-study assistants work to provide concept to completion support in the development of original learning materials.

A television facility offers both studio and remote capability as well as editing and post-production. The CIT is an origination point for the community cable television system. The CIT is open from 8 am to 9:00 pm Monday through Thursday, Friday from 8 am to 5 pm, and Saturday from 9 am to 1 pm.

TRANSFER AFTER NECC

Degree Programs Designed for Transfer

Some degree programs at Northern Essex are specifically designed for students who plan to transfer to a four-year college or university after graduation. The Liberal Arts, Business Transfer and Engineering Science programs parallel the first two years of similar programs in most public and private senior colleges throughout the country and provide a solid basis for transfer with advanced standing.

Career Program Transfer

Although career programs do not specifically prepare a student for transfer to a senior institution, they do have transfer potential. Many Northern Essex students in career programs have been accepted, after graduation, to programs in senior colleges related to their career fields.

Selection of Courses for Transfer

It is the responsibility of students to select courses at Northern Essex that will be acceptable for their chosen field of study at a senior institution of their choice. Careful study of the catalog of that institution will answer most questions. Students should request (from the Admissions Office of the senior institution they select) a copy of that college's catalog. The Academic Advising Center also keeps copies of catalogs from those transfer institutions that students frequently attend. Advisors in the Academic Advising Center, as well as faculty advisors, are available to help students select courses that will satisfy both the degree requirements at Northern Essex, as well as those at transferring institutions.

Transfer Agreements

Transfer agreements exist between NECC and other colleges such as Bentley College, Bradford College, Emmanuel College, Framingham State College, Gallaudet University, Lesley College, Merrimack College, New England College, Northeastern University, Pine Manor College, Rivier College, Salem State College, Trinity College of Vermont, and the University of Mass/Lowell for transfer from specific programs at Northern Essex into specific programs at these senior institutions. For further information, contact the Advising Center.

Commonwealth Transfer Compact

In January 1990, the Board of Regents of the Commonwealth of Massachusetts adopted the following policy effective January 9, 1990. This policy concerns all students who are transferring from a Massachusetts state community college to a four-year Massachusetts state college or university with an Associate of Arts transfer degree or an Associate of Science transfer degree:

- Requirement for Transfer Compact Status: A student shall be eligible for Transfer Compact status if he or she has met the following requirements:
 - a. Completed an Associate degree with a minimum of 60 credit hours exclusive of developmental course work.
 - b. Achieved a cumulative grade point average of not less than 2.0 (in a 4.0 system) at the community college awarding the degree.
 - c. Completed the following minimum general education core, exclusive of developmental course work.

English Composition/Writing	6 credit hours
Behavioral and Social Science	9 credit hours
Humanities and Fine Arts	9 credit hours
Natural or Physical Science	8 credit hours
Mathematics	3 credit hours

The sending institution is responsible for identifying the transcript of each student who is a candidate for transfer under this compact.

- Credits to be Transferred: The 35 credits in general education specified above will be applied toward the fulfillment of the receiving institution's general education requirements.

A minimum of 25 additional credits will be accepted as transfer credits by the receiving institution. These credits may be transferred as free electives, toward the receiving institution's additional general education requirements, toward the student's major, or any combination, as the receiving institution deems appropriate.

Only college-level course credits consistent with the standards set forth in the Undergraduate Experience recommendations are included under this Compact. Credits awarded by the sending institution through CLEP, challenge examinations, and other life-experience evaluations for course credit may be included when the community college certifies that a student qualifies under this Compact.

- Credits Beyond the Associate Degree: To complete the baccalaureate degree, a student who transfers under this compact may be required to take no more than 68 additional credits unless:
 - a. the student changes his or her program upon entering the receiving institution, or
 - b. the combination of additional general education requirements, if any, and the requirements of the student's major at the receiving institution total more than 68 credits.

Under these circumstances, transfer students will be subject to the same requirements as native students. (The term "native student" refers to students who began their undergraduate education at the baccalaureate institution.)

A transfer student may not be held to any degree requirements at the receiving institution that were established less than three years prior to transfer admission.

- Admission to Competitive Majors or Programs: If, because of space or fiscal limitations, the receiving institution does not admit all qualified applicants to a given major or program, the receiving institution will use the same criteria for applicants who are transfer students under this Compact as it does for its native students.
- Transfer Records: The student with Transfer Compact status will be furnished by the receiving institution a list of courses to be fulfilled to earn a bachelors degree no later than the end of the semester the student enrolls. With the agreement of the student, copy will be provided to the Transfer Officer at the sending community college.
- Student Appeals: A student who believes that the provisions of this Compact have not been applied fairly to his/her transfer application has the right to appeal.

ACADEMIC POLICY & PROCEDURES

Academic standards have been established at Northern Essex Community College to help students attain understanding, competence and excellence.

Mandatory Assessment and Planned Placement

Assessment at NECC is defined as a test of a student's abilities in reading, writing and math.

1. All matriculated college students will be assessed prior to registration.
2. Non-matriculated students may take no more than 6 credits before they must be assessed (unless those credits are in math or English composition).
3. Students enrolling in any math or English composition course must be assessed in that area.
4. Non-native English speakers may take a different test, but they must show proficiency in English before they can take courses which carry graduation credits.
5. Testing accommodations will be made for students with disabilities in conjunction with the Learning Accommodations Center.

Academic Ethics and Plagiarism

The college expects all students to maintain high standards of academic honesty and integrity. Plagiarism is clearly an example of a violation of Academic Ethics and is a major offense.

Plagiarism is defined by the college to be the use of any other person's work or ideas as though the work or ideas were their own, without giving the appropriate credit.

Instructors are required to provide students with a clearly written definition of plagiarism applicable in their discipline as part of the course syllabus that they provide during the first two weeks of each course.

Students are responsible for understanding what plagiarism is in each of their classes. The college's definition and that of their instructor will be used as a criterion against which all plagiarism allegations will be judged. Instances of plagiarism will be addressed first by the instructor who discovers, or is made aware of, the incident. Instructors must discuss the evidence of plagiarism with the student prior to taking action. Instructors who take action as a result of a plagiarism incident may report such action to the Vice President of Academic Affairs. There shall be a range of penalties at the discretion of the instructor which may extend to a recommendation to the Vice President of Academic Affairs for expulsion from the College. The Vice President of Academic Affairs may take disciplinary action against students who are reported for plagiarism.

Students have a right to file a grievance if they feel that the action taken in the alleged plagiarism case discriminated or abrogated their individual or student rights. Students may contact the Vice President of Enrollment Management and Student Services Office for detailed information regarding the Board of Higher Education's Student Grievance Procedures.

Absence for Religious Reasons

Students who, due to religious beliefs, are unable to attend classes or to participate in any examination, study or work requirements on a particular day, shall be excused from any such examination or study or requirement, and shall be provided with an opportunity to make up such examination, study, or work requirement which they may have missed because of such absence on any particular day, provided, however, that such makeup examination or work shall not create an unreasonable burden upon the school. No fees of any kind shall be charged by the institution for making available to said students such opportunity. No adverse or prejudicial effects shall result to students for availing themselves of the provisions for an absence for religious reasons in accordance with Chapter 375, General Laws of the Commonwealth of Massachusetts.

Academic Residency Requirements

A minimum of 24 credits of course work for an associate degree program, and 12 credits of course work for a certificate program, are required in order to fulfill residency requirements. CLEP and CLL credit cannot be used to fulfill residency credit. In addition, students must be currently enrolled and matriculated at the time they are fulfilling their residency requirements, and be in their final year (or semester) of course work at the time they petition to graduate.

Courses Taken at Another College while Enrolled at Northern Essex Community College

When a student lacks one or two courses for completing requirements at Northern Essex, and problems of distance, course availability or class time make it very difficult to take the courses at this college, the student may request permission to take a course at another college. The forms are available at the Registrar's Office. Grades for courses transferred from another college are not computed in the QPA average at Northern Essex.

This alternative will be approved only in hardship situations and is subject to the following stipulations.

- Residency requirements will be met.
- All conditions prescribed in the student's curriculum plan are being met.
- The student provides this college with a detailed course description of the course.
- Written approval is received from the Registrar, and if appropriate the program coordinator, by the student before taking the course at another college.
- A grade of C or better is earned in the course.

Attendance and Non-Participation

Students are expected to attend each meeting of each class in which they are enrolled. The class instructor has full and final authority to decide whether a student is permitted to make up work missed through absence, and on what terms. Students should ask each of their instructors about their respective attendance policies.

Faculty have the academic authority to remove students from their class for non-attendance or non-participation. A non-participating (NP) student is one who, because of absences, missed quizzes, tests or papers, or inappropriate classroom behavior, has fallen behind the work of the class to such a degree that the instructor feels the student is not likely to attain a passing grade. In most cases, circumstances would indicate to the instructor that the student has dropped the course but neglected to drop it officially.

When students are removed from a class due to non-participation (NP), a grade of NW (Withdrawal due to non-participation) or F/N (Failure due to non-participation) will be assigned and recorded on their transcripts. Students who are NP'd will receive a letter from the Registrar along with instructions on reinstatement procedures.

Graduation Requirements

Northern Essex Community College awards Associate Degrees in Arts and Sciences, and Certificates to all qualified students at commencement exercises for each class. In order to receive this award, students must meet the following criteria:

- Completion of all required courses in a curriculum with a passing letter grade, or with the minimum letter grade specified for that course.
- Completion of the number of credit hours prescribed by a particular curriculum.
- Completion of final year of course work and a minimum of 24 credit hours of course work at NECC in order to qualify for a degree, and a minimum of 12 credits in classroom work to qualify for a certificate.
- Attainment of a cumulative quality point average (QPA) of 2.00 or higher.
- Completion of the petition for graduation prior to deadline date as prescribed in the Academic Calendar.
- Payment of all financial obligations at the college.

High honors are awarded during commencement to all students with a cumulative quality point average of 3.50 or higher. Honors are awarded to all students with a cumulative quality point average of 3.00 to 3.49 inclusive.

Additional Associate Degrees or Certificates

Students may seek an additional associate degree or certificate at Northern Essex Community College by being accepted for matriculation into a new program after graduating from an initial program. Students must reapply through the Admissions Office.

Only Northern Essex Community College courses applicable to the new program will be counted in the new program QPA.

To qualify, students must:

- Satisfy graduation requirements.
- Satisfy all of the specific program requirements.
- For those with an Associate Degree, complete a minimum of: 15 credits beyond the most recent Associate Degree to earn an additional Associate Degree; 9 credits beyond the most recent Associate Degree to earn a certificate
- For those with a certificate, complete a minimum of: 15 credits beyond the most recent certificate to earn an Associate Degree; 9 credits beyond the most recent certificate to earn an additional certificate.

Matriculated Status

Once students have matriculated—been accepted by the college into one of its associate degree or certificate programs of study—they must maintain a prescribed academic standing in order to continue from one semester to another. Matriculation must occur in order to graduate in one of NECC's programs of study.

Dual Program Status

Students may pursue dual program status by entering a course of study that will allow them to complete two programs simultaneously. Students must apply through the Admissions Office for dual program matriculation.

Students must satisfy the requirements of each program and the requirements listed under the section above—Additional Associate Degrees or Certificates at Northern Essex Community College.

Students may not concurrently graduate from a certificate and associate degree program in the same subject matter.

The Curriculum Plan

The plan of study for each associate degree or certificate program indicates all or some of the following:

- Specific courses, by number and title, which must be completed and the sequence in which they must be completed.
- Required types of courses, such as science, mathematics, humanities, social sciences, etc., which must be completed.
- Elective opportunities (not otherwise limited by specific program requirements) where any course or courses for graduation credit can be chosen as long as the required number of credits to earn the degree is satisfied.

In order to meet the requirements in four semesters, a student must complete an average of at least 15 credit hours each semester. This pace involves a course load which, for a variety of reasons, is too heavy for many students. Therefore, many students take five and six semesters to complete their requirements. The college, therefore, defines a full time student as one who is carrying 12 credit hours in one semester.

Students, in consultation with advisors, select courses and create their schedule during the registration period. If students are not able to take the courses in the order in which they are listed in the curriculum plan, students must be certain that they have fulfilled any stated pre-requisites for courses that are selected out of sequence.

Program/Course Requirements

When a course is listed as a requirement for a degree/certificate in a given curriculum, a student who meets the criteria may request approval from the appropriate divisional assistant dean and the Vice President of Academic Affairs to waive the course. The student receives no credit for waiving a course, and may need to take an alternative course to fulfill their program requirements.

Directed Studies Courses

In order to provide for a unique, highly individualized course of study for a single student, or a relatively small number of students, each academic department/program in the college offers Directed Studies courses. Such courses are designed to provide further study through directed readings, directed research projects or seminars, or special class work related to research in a specific subject. Each Directed Studies course is usually initiated in response to student interest, is limited to 5 or fewer students and should not be confused with a Special Topics course.

Special Topics Courses

Special Topics courses may be offered by any academic department/program with the approval of the divisional assistant dean responsible for that area and the chairperson of the Academic Services Committee. The divisional assistant dean, at the time of signing the approval form, shall forward an informational copy of the Special Topics course to the Vice President of Academic Affairs.

Special Topics courses are normally initiated by faculty or divisional assistant deans and are created for more than five (5) students. Special Topics courses are regular semester college courses and may be from one to four credits. Classes meet on a regular schedule.

Dates for submission of Special Topics proposals to the Academic Services Committee will follow the time schedule established by the Office of the Vice President of Academic Affairs. Approval for Special Topics courses may be granted twice by the chairperson of the Academic Services Committee. If the proposer expects to offer the course for more than two separate semesters, a formal course proposal should be submitted to the Academic Services Committee at the same time as the second request for a Special Topics approval. Both proposals will be considered for approval in order that the course may be offered until the Academic Services Committee and President have acted.

Electives:

Electives are courses not specifically prescribed in a curriculum plan. The definitions listed below are meant to help students make elective choices for their respective programs. Students should consult their Academic Advisor before registering for elective courses.

ELECTIVE OR FREE ELECTIVE:

Any college level course offered at Northern Essex Community College. N.B. All developmental (pre-college level) courses are excluded.

BUSINESS ELECTIVE:

Any course offered by the Business Administration Department with the prefix AC, BU, EC, FI, LW, MG, MK; any course offered by Office Technology Department with the prefix SL, SH, TW or any course offered by Health Information Technology Department with the prefix MR, HS.

LIBERAL ARTS ELECTIVE:

Any college level course offered by the following departments with the associated prefixes:

History and Government: GE, GV, HI

Behavioral Sciences: PS, SO

Foreign Language/Philosophy/Religion: AL, FR, GM, IT, SP, PH, and RE

English: EN, except for Freshman Composition I & II, and HU

Creative Arts: FA, MU, TH

Math: MA

Natural Science: BI, CH, ES, PI, SC

HUMANITIES ELECTIVES:

Any college level course which falls within the areas of humanities, communications, foreign language, philosophy/religion, and creative arts as defined below.

Humanities: Any course beginning with HU.

Communications: Any course beginning with EN that is offered by the English Department except Freshman Composition I and II.

Literature: Any course beginning with EN containing "Literature" in the title.

Creative Arts: Any course beginning with FA, MU, or TH.

Art: Any art course beginning with FA.

Dance: Any dance course beginning with FA.

Music: Any course beginning with MU.

Theatre: Any course beginning with TH.

Foreign Language: Any course beginning with AL, FR, GM, IT, or SP.

Philosophy/Religion: Any course beginning with PH or RE.

SOCIAL SCIENCE ELECTIVE:

Any course offered by the Department of History and Government and/or the Department of Behavioral Sciences or any course with the prefix of GE, GV, HI, PS or SO.

Behavioral Science: Any course offered by the Department of Behavioral Sciences or any course with the prefix of PS or SO.

History and Government: Any course offered by the Department of History and Government or any course with the prefix of GV or HI.

NATURAL SCIENCE ELECTIVE:

Any course offered by the Department of Natural Sciences or any course with the prefix of BI, CH, ES, PI, or SC. Students need to be aware that there are 3 and 4 credit sciences. The elective/s chosen must meet the number of credits specified in the curriculum.

MATH ELECTIVE:

A math elective is satisfied by any math course with a course number higher than MA5501 unless otherwise stated in a program description.

Course Loads

Students are responsible for knowing what courses are required in their curriculum and for meeting all other academic requirements.

Students are encouraged to take the number of courses they believe they can manage with good performance. Note, however, that omitted courses or their equivalent should be taken in summer session in order to graduate in two years.

Students may request to take more courses in one semester than the suggested schedule if they have attained a QPA of 3.00 or higher at Northern Essex and have the approval of their advisor. Final registration approval will depend on the availability of course seats.

Students who enroll in more courses than the suggested schedule may be required by the Registrar to drop a course.

Course Pre-requisites

If students do not have the necessary pre-requisite for a course in which they wish to register, it is necessary to obtain permission from the Divisional Assistant Dean or coordinator of the academic department/program which offers the course. Approved waivers must be on file in the Registrar's office prior to the 5th day of each semester or the student will be dropped from the course.

Adding a Course

A course for which a student did not register may be added to the student's schedule on a space available basis. A student who wishes to add a course must complete the Add portion of the College's Registration Form available in the Registrar's office. Exact days, times and procedures for adding a course are published by the Registrar at the beginning of each Day, Evening or Summer session and are noted in the Academic Calendar.

Dropping a Course

Students may drop (withdraw from) a course anytime during the semester in accordance with this policy and the respective dates listed in the College Academic Calendar. To drop a course students must complete the Drop portion of the Registration Form, and submit the form to the Registrar's Office for processing. Before dropping a course, students should consult with their academic advisor and also inform the instructor of the course that they are dropping the course. Students who are enrolled (matriculated) in a program and plan to drop ALL their courses and discontinue their studies, should officially Withdraw from College. The following Withdrawal grades are assigned when a course is dropped:

Period 1: No Withdrawal grade is assigned and the course is deleted from the registration record if a course is dropped during the official "drop and receive a refund" period. The present refund period is defined as the first fourteen calendar days for a full semester course, and for courses meeting eight weeks or less, the period of time prior to the third class meeting. For specific information about refunds, refer to the Refund Policy

Period 2: An "W" withdrawal grade, which is non-punitive is assigned to a course that is officially dropped after the end of the course's refund period through the date specified in the current Academic Calendar. For regular semester courses a "W" grade is assigned if a course is dropped through the tenth Friday of the semester. For courses meeting eight weeks, a "W" is assigned if dropped through the fifth Friday. Note: A "NW" non-participation grade is assigned if the student is dropped for non-participation by the course instructor.

Period 3: A "FW" withdrawal grade which is non-punitive is assigned to a course that is officially dropped after the "W" period ends as specified in the Academic Calendar, but prior to the start of final examination week. Note: A "NW" grade is assigned if the student is dropped for non-participation by the instructor.

Students may not drop a course after Period 3 ends. Students who drop all of their courses will be considered to have Withdrawn from the College, and if matriculated, their program of studies. Students who were matriculated in a program will have to reapply for program admission per the Withdrawing from College policy. In addition, grades will be assigned in accordance with dates specified in the Academic Calendar and per college policy. Note: All "W"-type grades (see Grading System) currently carry no earned credit or quality points, but do appear on student transcripts.

The length of a Drop/Add period for accelerated or extended courses or sessions may vary, but is equivalent to the above mentioned policy, and posted accordingly. Exceptions to these policies may be made only by the Vice President of Academic Affairs. Consult the Academic Calendar for dates relative to dropping a course. Academic Calendars are published each semester and are available at the Registrar's Office, B-219.

Special Notice About Dropping a Course or Withdrawing from College

Students who are receiving any form of Financial Aid or Veterans Educational benefits, and students participating in college sports or other activities which have eligibility criteria, should consult with the respective office PRIOR to dropping a course. Reducing hour credit load may adversely affect eligibility to receive Financial Aid, Veterans Educational benefits, or make one ineligible to participate in collegiate sports or other activities. In addition, most private insurance companies require that students be full time (12 credits or more) to be eligible for coverage.

Withdrawing from College

Students who must drop all of their courses should officially Withdraw from College. Officially withdrawing from college will ensure that the correct grades are assigned for each course. To officially withdraw from the college, a student must complete a Withdrawal From College Form available at the Registrar's Office.

When a student officially withdraws from college, the student's course(s) will be assigned Withdrawal grades as prescribed in the Drop a Course policy. Note: In addition to the withdrawal grades listed in the Drop a Course policy, instructors have the option of assigning a "WP" grade—passing at the time of withdrawal. Students who discontinue their studies and officially Withdraw from College are no longer considered to be enrolled at the college or matriculated in their program. If the student wishes to return to the college and wants to be enrolled (matriculated) in a program, the student must officially reapply for admission to a program.

Repeating a Course

Students may repeat a course. In most academic programs, there is no limit to the number of times that such a course may be repeated. In each instance the highest grade received when repeating a course will be used to determine the QPA. The notation R appears on the transcript for any repeated course.

Persons receiving any form of financial assistance should seek written approval from the representative of the agency providing the assistance; for example, the Regional Veteran's Administration Office, Massachusetts Rehabilitation Counselor, Financial Aid Director, etc.

Auditing a Course

Students may audit a course for no course credits by electing to enroll and attend a credit course for self-improvement or individual interest, without the responsibility of fulfilling academic assignments. An Audit Request Form, available in the Registrar's office, must be completed during the first twenty (20) days of class.

Enrollment of auditors in courses is subject to the approval of the Vice President of Academic Affairs or Registrar and the individual faculty member concerned. An audit grade CANNOT be changed to a regular course grade. Tuition for an audited course is the same as a regular course.

Retroactive Course Withdrawals

The Vice President of Academic Affairs is responsible for approving any retroactive course drops in a prior semester, and any retroactive withdrawal from college which affects an earned letter grade A through F.

In order to apply for a retroactive course drop or withdrawal, students must complete a Retroactive Withdrawal Petition available in the Registrar's Office. The Registrar will review the request, prepare supporting documentation if appropriate, and forward the petition to the Vice President of Academic Affairs for consideration. If approved, the action will result in a W grade appearing on the transcript for the course(s) in the prior semester, with W grade(s) dated as of the forty-fifth academic class day of that semester.

Academic Standing

A student's academic standing indicates progress towards a degree. A minimum over-all average grade is required to continue from one semester to another. There are three categories of academic standing. These are described as follows:

Good Standing: Good standing is defined as follows:

- A QPA of 1.50 after attempting one to nineteen credit hours
- A QPA of 1.75 after attempting twenty to thirty-six credit hours
- A QPA of 1.90 after attempting thirty-seven to fifty-four credit hours
- A QPA of 2.00 after attempting fifty-five or more credit hours.

Probation: Probation is a warning that a student must show academic improvement in order to maintain enrollment within a program. Students on probation receive a written warning from the Vice President of Academic Affairs at the beginning of the semester in which their QPA falls in the probationary range. This letter states that students on probation must consult with an advisor from the Academic Advising Center, and plan a course of studies to improve grades. Upon attaining grades of good standing, probationary status is removed. Probation status is assigned as follows:

- A QPA below 1.50 after attempting one to nineteen credit hours.
- A QPA below 1.75 after attempting twenty to thirty-six credit hours.
- A QPA below 1.90 after attempting thirty-seven to fifty-four credit hours.
- A QPA below 2.00 after attempting fifty-five or more credit hours.

Suspension: Students are put on suspension as a result of unsatisfactory academic progress. Suspension automatically drops students from their academic programs and denies students eligibility to return in the following semester. Students are informed in writing by the Vice President of Academic Affairs that they are suspended. The letter includes information regarding academic advising available to assist students in improving their academic progress. It also explains the actions students must take if they desire to continue enrollment at NECC as a “special conditions student” or be reinstated into their academic program at the college at a later date. Suspension is assigned as follows:

- A QPA less than 1.00 after attempting one to nineteen credit hours.
- A QPA less than 1.50 after attempting twenty to thirty-six credit hours.
- A QPA less than 1.75 after attempting thirty-seven to fifty-four credit hours.
- A QPA below 1.90 after attempting fifty-five or more credit hours; but less than nine credit hours beyond the total required in the student’s curriculum.
- A QPA below 2.00 after attempting nine credit hours beyond the total required in the student’s curriculum.

Petition to Return as a “Special Conditions Student”

Students who are suspended may petition the Vice President of Academic Affairs, through the Academic Advising Center, to continue enrollment at NECC as a “Special Conditions Student.” After consultation with an academic advisor, students may be allowed to take a limited number of classes at Northern Essex while suspended (usually no more than two).

Students who desire to do so, must fill out a Petition to Return as a Special Conditions Student Form. The petition can be obtained at the Academic Advising Center. An approval signature is given only after the student meets with an advisor to discuss course selection; provide reasons for unsatisfactory progress, and develops a plan for improving grades.

Removal from Suspension

Students who show improvement in their academic progress by successfully completing necessary courses and raising their cumulative QPA above suspended status may petition the Vice President of Academic Affairs, through the Academic Advising Center, to be removed from academic suspension and return to their academic program. Students who desire to do so must fill out a Petition to Return to Academic Program Form, which can be obtained at the Academic Advising Center.

Students must meet with an academic advisor to review their academic progress and develop plans for continued improvement. The current cumulative QPA, along with the student’s academic progress to date is used to determine the future academic status of the student. At this time a recommendation is made as to whether or not the improvement has been sufficient to warrant reinstatement into an academic program.

Grading System

Letter grades are used at the college per the table listed below, and each grade has a numeric range and associated Quality Point Value. The Quality Point Value is based on a 0.00 to 4.0 range, with an “A” grade having the highest value of 4.0. Grades are used to represent the quality of work done in a course and knowledge earned, as based on the individual instructor’s standards and course objectives.

The Quality Point Value is used to determine the numeric average of semester course work or of cumulative courses and grades to date. Such a computation is known as the Quality Point Average (QPA) of the grades earned to date. The Quality Point Values of a grade in combination with a credits attempted scale, are used to establish the college’s Standards of Academic Progress. The grades presently in use by the college are:

Grade	QP Value	Numeric Range/Comment
A	4.00	93-100
A-	3.70	90-92
B+	3.30	87-89
B	3.00	83-86
B-	2.70	80-82
C+	2.30	77-79

Grade	QP Value	Numeric Range/Comment
C	2.00	73-76
C-	1.70	70-72
D+	1.30	67-69
D	1.00	60-66
F	0.00	59 or less; failure; no credit earned
W	0.00	Withdrawal from course by student within withdrawal period
NW	0.00	Non-participation withdrawal grade assigned by instructor within withdrawal period
P	0.00	Pass; credit earned
WP	0.00	Withdrawn passing
NC	0.00	No credit earned
I	0.00	Incomplete, in non-punitive period
IF	0.00	Incomplete changed to Incomplete Failure
FN	0.00	Non-participation failure grade assigned by instructor after withdrawal period
FW	0.00	Failure due to withdrawal from course by student after withdrawal period
AU	0.00	Audit; no credits earned
NG	0.00	No grade submitted by instructor

Listed below is an example of how the **Quality Point Average** of grades is computed:

Course Completed	Credits (Cr) Attempted	Grade Earned	Quality Point Value (QP)	Computation (Attempted cr. x quality points)
English Composition I	3	A	4.0	3 cr. x 4.0 QP = 12.0 QP
Introduction to French I	3	F	0.0	3 cr. x 0.0 QP = 0.0 QP
College Algebra I	3	D	1.0	3 cr. x 1.0 QP = 3.0 QP
US History I	3	B	3.0	3 cr. x 3.0 QP = 9.0 QP
Total Credits Attempted = 12 Total Quality Points earned = 24.0				

To determine the Quality Point Average (QPA) of courses completed and grades earned, divide attempted credits into the total quality points earned: 12 credits divided into 24.00 = a QPA of 2.0. In this example, the student has a QPA of 2.0, or in other words an overall “C” average.

The QPA is also cumulative. Each semester a cumulative QPA is computed by dividing the total number of credits attempted in all semesters at the college into the total number of quality points earned in all semesters at the college. (One exception to this is for those students who have transferred from one program at the college into another. In that instance, those courses that have not been applied to the new program

are not considered when determining the QPA.)
Attempted credit hours include credit hours with a letter grade of A, A-, B+, B, B-, C+, C, C-, D+, D, F, FN and IF. Grades of P, NC, I, W, NW, FW, WP, NG and AU are not included in the attempted credit hours. When a course is repeated the higher of the two grades will be computed in the QPA; only the credit hours for the higher grade will be included in the cumulative total of attempted hours. The transcript will record each time the course has been taken. (Refer to Repeating a Course in this section of the catalog for further details.)

Incomplete Grades

Students may receive a temporary grade of Incomplete (I) from instructors when all work in a course is not satisfactorily completed and, in the judgment of the instructor, completion of the assigned tasks would allow the student to earn a passing grade in the course. If the instructor assigns an I, a Documentation of Incomplete Grades form must be completed by the instructor and placed in the student's folder that is maintained by the Registrar. The form will clearly outline the work to be completed and the time limit and must be submitted with semester grades. An instructor may change an I to a letter grade (other than a W grade) any time after it is assigned.

Instructors may accept late course work only when, in their judgment, there are acceptable reasons to justify such a delay. If a final examination is missed because of student inaction, as opposed to a cancellation of class or instructor inaction, the instructor may allow a make-up if, in the judgment of the instructor, successful completion of the final examination could earn the student a passing grade.

If, for any reason, the instructor has left Northern Essex permanently or for an extended period of time and is unavailable, the divisional assistant dean has the authority to change the grade using the Grade Change Form. The divisional assistant dean's decision is based upon a waiver of any existing documentation of the Incomplete. If documentation of expected work is not available, the divisional assistant dean may use professional judgment to determine work to be completed and the final grade.

Incomplete grades are temporarily not computed in determining the semester and cumulative QPA. Incomplete grades (I) are automatically converted to IF (Incomplete, Failure, no credit earned) grades at the end of the next semester, and are computed as F grades in the student's semester and cumulative QPA. The student is expected to take the initiative in seeking to complete course work necessary to change an I to another grade. An I cannot be changed to a W, NW, WP or grade by the instructor.

Pass/No Credit Grade Option – Liberal Arts Program

A student who is enrolled in the Liberal Arts Program and has successfully earned 12 credits or more, may elect to enroll in a course under the Pass/No Credit grade option. The following criteria apply to the NC (no credit earned) grade option:

- Courses taken on Pass/No Credit basis may be used to fulfill the elective requirements only of the Liberal Arts degree. All specific course requirements must be taken for a letter grade.
- At no time may a grade for a course taken on a Pass/No Credit basis be converted to a letter grade.
- All credits earned for courses taken as Pass/No Credit will count towards the total credit hours required for a Liberal Arts degree, but will not be calculated into the student's quality point average.
- No more than 12 credit hours of Pass/No Credit courses may be applied toward the student's degree and no more than one course may be taken on this basis in any one semester.
- Some colleges may not permit the student to use courses taken as Pass/No Credit for transfer purposes. Responsibility for seeking information regarding the transferability of Pass/No Credit courses lies with the student.
- The Pass/No Credit Grade Option form must be completed and submitted to the Registrar no later than the sixth academic day of the semester in which the course is taken.

Approval from the course instructor is not necessary for the Pass/No Credit option. The instructor is, however, notified of your Pass/No Credit option. The Registrar may approve late applications for the Pass/No Credit option as appropriate. Pass/No Credit Grade Option forms are available only in the Registrar's office.

Changing Grades

To alter the final grade of a student, instructors must complete a Change of Grade form.

Change of Grade forms are available at the Registrar's office. Instructors must submit forms in person.

Mid-Semester Grades

Mid-semester grades are not routinely issued at Northern Essex. All students, however, have the right to request written evaluations from their instructors at any time during the semester. The Registrar's office has a mid-semester grade form available for students who wish to submit them to their instructors.

Student Academic Transcripts/Semester Grade Reports

All courses taken at Northern Essex Community College are maintained at the Registrar's Office and are recorded as a single permanent record. If the student successfully completes a program of study at Northern Essex Community College, the name of the degree or certificate earned will be noted on the transcript.

Transcripts may be reviewed by students in person by presenting an acceptable form of identification, such as a driver's license, college I.D. card, social security card, etc. Any written request for (or release of) an official transcript must contain the student's name, address, date of birth, social security number, and dates of attendance. Transcripts will be released to other parties only if written authorization from the student has been received. Official transcripts cost \$1.00 each.

Honors

Each semester students are appointed to the Dean's List for Academic Honors if they fulfill the following requirements:

- They are candidates for a degree.
- They are carrying 12 or more credit hours within the semester.
- They attain a quality point average of 3.00 or higher within the semester.

ASSOCIATE DEGREES & CERTIFICATE PROGRAMS

Academic Affairs

Under the leadership of the Vice President of Academic Affairs, programs of study at Northern Essex Community College are offered through the cooperative efforts of six academic divisions and the Office of International Programs, each directed by an assistant dean.

Five divisions administer the associate degree and certificate programs of study: the Division of Business; the Division of Humanities and Communication; the Division of Human Services and Health Professions; the Division of Mathematics, Science and Technology; and the Division of Social Sciences. The sixth academic division, the Division of Instructional Support Services, is a multi-purpose, service-oriented division that assists students to assess and improve academic skills. The Office of International Programs offers study abroad programs and helps sponsor the CCIS India Program.

Associate Degree Programs

Northern Essex Community College offers a variety of academic programs leading to the attainment of an Associate of Arts or Associate of Science Degree. Associate degree programs carry a minimum of 60 credits and follow a required or recommended sequence of courses. These programs are carefully designed to develop the knowledge, skill, abilities and appreciation that the College has determined essential to receive degree status. Students intending to continue their studies are encouraged to review specific college requirements with their advisors to obtain highest transferability of the NECC coursework.

Degree Options

Specific degree options within degree programs will recommend or require a minimum of either six courses or twenty credits as defined within the college catalog and will be included on the college transcript.

A. TRANSFER ASSOCIATE DEGREE PROGRAMS

The primary transfer programs at Northern Essex are Liberal Arts, Business Transfer and Engineering Science. These programs are parallel to the first two years of similar programs in most public and private senior colleges throughout the country and provide a solid basis for transfer with advanced standing.

B. CAREER ASSOCIATE DEGREE PROGRAMS

Career associate degree programs are intended to provide the theory and technical knowledge to develop the professional skills students need to qualify for entry into the job market immediately after graduation. Many of these programs include practicum experiences while others may be supplemented with cooperative education courses for on-the-job training. Individual courses within these programs may have transfer potential into related degrees at senior colleges.

C. GENERAL STUDIES DEGREE PROGRAM

The General Studies Program is designed for students who have not yet decided on a particular field of study to provide a flexible curriculum which combines a core of transfer courses with an opportunity to explore occupational courses in areas such as engineering, computer science, management and health professions through 24 credits of free electives.

Certificate Programs

NECC certificates are awarded for an area of concentration that develops specific skills needed for immediate job entry into a career field/cluster or further study in a clearly identified area of specialization within a discipline. NECC awards several types of certificates.

A. CERTIFICATE

The NECC Certificate is awarded for a 24 credit or more program.

B. CERTIFICATE OF COMPLETION

The NECC Certificate of Completion is awarded for a 15-23 credit certificate program.

C. CERTIFICATE OF ACCOMPLISHMENT OR PARTICIPATION

The NECC Certificate of Accomplishment or Participation is awarded for certificate programs up to 14 credits or for noncredit courses.

Many of these certificate programs provide practicum experience, while others may be supplemented with cooperative education courses for alternative on-the-job experience. Most certificate programs may be applied in part or whole towards an appropriate degree program or General Studies degree. Individual courses within these programs may have transfer potential.

Accounting

The associate in science degree program in Accounting provides a basic core of business courses which introduces students to a broad variety of areas within the field of business and prepares them to select that particular phase of specialization which best suits their needs, abilities and interests. The Accounting specialization is designed to prepare students to enter business, industry or government in the specific field of accounting. Many of the courses in the curriculum may be transferred to a four-year college of business administration. Sixty-three to sixty-seven credit hours of work are required for graduation.

First Semester		Credits
EN4401	English Composition I	3
AC6610	Introductory Accounting I	3
	Mathematics Elective*	3
BU4400	Introduction to Business	3
PS1101	Introduction to Psychology <i>or</i>	
SO3321	Introduction to Sociology	3
TW6650	Computerized Keyboarding I**	3
		15/18
Second Semester		Credits
EN4402	English Composition II	3
AC6611	Introductory Accounting II***	3
	Mathematics Elective*	3
PS1101	Introduction to Psychology <i>or</i>	
SO3321	Introduction to Sociology	3
CT6630	Introduction to Personal Computers	3
		15

Third Semester		Credits
AC6683	Computerized Accounting Systems†	3
AC6620	Intermediate Accounting I†	3
AC6682	Tax Accounting†	3
LW6651	Business Law I	3
EN8011	Public Speaking or	
EN8020	Interpersonal Communication	3
	Natural Science Elective*	3/4

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Fourth Semester		Credits
	Economics Elective†††	3
MG6666	Principles of Management	3
AC6621	Intermediate Accounting II††	3
AC6671	Cost Accounting†	3
	Elective*	3

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* Basic Math, Basic Algebra, Basic Writing, College Reading, and other developmental courses do not satisfy Math, Business, Liberal Arts, Natural Science, or elective requirements.

** Students with computer keyboarding skills may waive TW6650 Computerized Keyboarding I by passing the computer keyboarding assessment test. Students who choose not to take the assessment test, and those assessed with low keyboarding skills must take this course in their first semester.

*** Pre-requisite: A grade of C or better in Introductory Accounting I.

† Pre-requisite: AC6611 Introductory Accounting II.

†† Pre-requisite: AC6620 Intermediate Accounting I.

††† Note: Transfer students should take EC3322 Micro-Economics to receive transfer credit, non-transfer students can take EC3652 Survey of Economics.

Alcohol/Drug Abuse Counseling Certificate

The one-year certificate program in Alcohol/Drug Abuse Counseling is designed to provide opportunity for students to learn the theory and develop addiction counselor skills to assist persons with substance abuse disability toward recovery from addiction. The curriculum content includes knowledge of the human service/substance abuse delivery systems, community networking and referrals, drugs of abuse, treatment modalities, group dynamics, counseling techniques, confidentiality, and professional ethics of substance abuse counselors. Supervised clinical experiences in alcohol/drug abuse services are an integral part of the program and prepare graduates for positions as substance abuse counselors. The program is based on the National Addiction Counselor Competencies and the National Community Support Skill Standards. Students who complete the program may begin the process toward substance abuse certification in Massachusetts. The program is approved by the Council for Standards in Human Service Education. Twenty-seven credits are required for graduation, all of which may be applied toward the Associate Degree in Human Services. Complete college admission requirements: two letters of reference; personal interview; health examination; liability insurance (enrolled in at time of college registration as part of tuition costs); demonstration of a serious commitment to working in the human service system to improve the care and services to the chemically dependent person(s).

First Semester		Credits
MH2111	Introduction to Human Services	3
MH2133	Observation & Recording of Human Services Programs	1
MH2170	Alcohol & Drug Abuse	3
MH2168	Human Services Practicum I in Alcohol/Drug Abuse Services	4
MH2147	Group Dynamics	3

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Second Semester		Credits
MH2171	Counseling Techniques	3
MH2169	Human Services Practicum II in Alcohol/Drug Abuse Services	4
MH2155	Modalities of Treatment	3
	Behavioral Science Elective	3

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Note: All courses with an MH prefix are restricted to students enrolled in the Human Services, Community Support Human Service Practitioner or Alcohol/Drug Abuse Counseling programs. Other students may take MH prefix courses depending upon class size with written permission of the coordinator.

Banking Studies Certificate AIB

The Banking Studies Certificate AIB has been developed by the College in conjunction with the Merrimack Valley Chapter, American Institute of Banking (AIB). The program is designed for students who wish to complete specialized courses in banking studies. The Banking Studies elective courses are sponsored by AIB, delivered by AIB certified faculty, and students receive AIB recognition as they complete the certificate requirements. The courses in this certificate program can be transferred as business electives into the Associate Degree program in Business Management. Twenty-four credit hours are required for the certificate.

First Semester		Credits
BK6601	Principles of Banking	3
AC6610	Introductory Accounting I	3
CT6630	Introduction to Personal Computers	3
	Banking Elective*	3
		12
Second Semester		Credits
BK6652	Law & Banking Principles	3
	Banking Electives*	6
	Liberal Arts Elective**	3
		12

* Banking Electives are any courses with a BK prefix
** Liberal Arts Elective must be selected among Humanities, Social Science, Natural Science

Biotechnology Laboratory Technician Certificate

The certificate program in Biotechnology Laboratory Technician provides students with theoretical and practical training in the basic technical skills needed for entry level jobs as technicians in the Biotechnology industry. All institutional pre-requisites are in effect including high school diploma or equivalent, high school Algebra and/ or a proficiency in Intermediate Algebra. Employment opportunities are in private research, development and manufacturing throughout Massachusetts. Twenty-eight to twenty-nine credit hours of work are required for the certificate.

First Semester		Credits
CT6630	Introduction to Personal Computers	3
BI5515	Introductory Biology I	4
MA5615	College Algebra	3
EN4401	English Composition I	3
		13
Second Semester		Credits
BI5553	Microbiology	4
CH5503	Introductory Chemistry I	4
EN4676	Technical Writing*	3
BI6010	Seminar in Biotechnology	1
		12
Summer Session		Credits
BI6015	Techniques in Biotechnology	3
BI6020	Internship in Biotechnology**	1
		3/4

* If unavailable choose from one of the following: EN8011 Public Speaking; EN4402 English Composition II; EN8020 Interpersonal Communication
** Optional

Business Management

The associate in science degree program in Business Management provides a basic core of business courses which introduces students to a variety of areas within the field of business. Specific requirements in Business Law, Business Finance, Economics and Principles of Management give students the knowledge and background to make positive contributions in those positions in the business world for which they may be preparing. A wide choice of business management electives allows students maximum flexibility in choosing their program of study. This program may be preferred by those not wishing to decide upon a specific concentration after completing the first year core program, or by those planning to transfer to a four-year college who want the flexibility of choosing specific business electives for a particular institution. Sixty to sixty-four credit hours of work are required for graduation.

First Semester		Credits
EN4401	English Composition I	3
AC6610	Introductory Accounting I	3
	Mathematics Elective*	3
BU4400	Introduction to Business	3
SO3321	Introduction to Sociology or	
PS1101	Introduction to Psychology	3
TW6650	Computerized Keyboarding I**	3
		15/18

Second Semester		Credits
EN4402	English Composition II	3
AC6611	Introductory Accounting II***	3
	Mathematics Elective*	3
PS1101	Introduction to Psychology or	
SO3321	Introduction to Sociology	3
CT6630	Introduction to Personal Computers	3
		15

Third Semester		Credits
FI3652	Business Finance†	3
LW6651	Business Law I	3
MK6678	Marketing††	3
EN8011	Public Speaking or	
EN8020	Interpersonal Communication	3
	Business Elective*	3
		15

Fourth Semester		Credits
	Economics Elective†††	3
MG6666	Principles of Management	3
	Business Elective*	3
	Elective*	3
	Natural Science Elective*	3/4
		15/16

* Basic Math, Basic Algebra, Basic Reading, Basic Writing, College Reading and other developmental courses do not satisfy Math, Business, Liberal Arts, Natural Science, or elective requirements.

** Students with computer keyboarding skills can waive TW6650 Computerized Keyboarding I by passing the computer keyboarding assessment test. Students who choose not to take the assessment test, and those assessed with low keyboarding skills must take this course in their first semester.

*** Pre-requisite: A grade of C or better in Introductory Accounting I

† Pre-requisite: AC6611 Introductory Accounting II

†† Pre-requisite: BU4400, Introduction to Business

††† Note: Transfer students should take EC3322 Micro-Economics to receive transfer credit; non-transfer students can take EC3652 Survey of Economics.

Business Management:
Computer Applications Option

The associate in science degree program in Business Management with Computer Applications Option provides a basic core of business courses that introduces students to a variety of areas within the field of business. Specific requirements in Business Law, Business Finance, Economics and Principles of Management, give students the knowledge and background to make positive contributions in those positions in the business world for which they may be preparing. A wide choice of business management electives allows students maximum flexibility in choosing their program of study. This program may be preferred by those planning to transfer to a four year college who want the flexibility of choosing specific business electives for a particular institution. Sixty-one to sixty-five credit hours of work are required for graduation.

First Semester		Credits
EN4401	English Composition I	3
AC6610	Introductory Accounting I	3
	Mathematics Elective*	3
BU4400	Introduction to Business	3
CT6630	Introduction to Personal Computers	3
TW6650	Computerized Keyboarding I**	3

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Second Semester		Credits
EN4402	English Composition II	3
AC6611	Introductory Accounting II***	3
	Mathematics Elective*	3
PS1101	Introduction to Psychology or	
SO3321	Introduction to Sociology	3
BU4430	Business Software Integration	3

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Third Semester		Credits
FI3652	Business Finance†	3
LW6651	Business Law I	3
CT6632	Personal Computer Applications	3
PS1101	Introduction to Psychology or	
SO3321	Introduction to Sociology	3
	Elective*	3

15

Fourth Semester		Credits
	Economics Elective††	3
MG6666	Principles of Management	3
EN8011	Public Speaking or	
EN8020	Interpersonal Communication	3
CT6681	Advanced Data Base Management Software	4
	Natural Science Elective*	3/4

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* Basic Math, Business Math, Basic Algebra, Liberal Arts Math I and II do not satisfy Math or elective requirements for Business Programs. Basic Reading, Basic Writing, do not satisfy English or elective requirements for the Business Programs.

** Students with computer keyboarding skills can waive TW6650 Computerized Keyboarding I by passing the computer keyboarding assessment test. Students who choose not to take the assessment test, and those assessed with low keyboarding skills must take this course in their first semester.

*** Pre-requisite: A grade of C or better in Introductory Accounting I

† Pre-requisite: AC6611 Introductory Accounting II

†† Pre-requisite: BU4400, Introduction to Business

††† Note: Transfer students should take EC3322 Micro-Economics to receive transfer credit; non-transfer students can take EC3652 Survey of Economics.

Business Management:
Entrepreneurship Option

The associate in science degree Business Management: Entrepreneurship Option program offers Business Management majors the opportunity to focus on the entrepreneurial aspects of business, as they pursue studies in the traditional business disciplines. Building on a foundation of core business course offerings, the program provides instruction in the entrepreneurial process of evaluation, planning, resourcing, and management, to bring new technologies and services to the marketplace. The degree provides graduates with the educational foundation to successfully venture into their entrepreneurial career, or to further entrepreneurial studies. Sixty to sixty-four credit hours of work are required for graduation.

First Semester		Credits
EN4401	English Composition I	3
AC6610	Introductory Accounting I	3
	Mathematics Elective+	3
BU4400	Introduction to Business	3
CT6630	Introduction to Personal Computers	3
TW6650	Computerized Keyboarding I++	3

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Second Semester		Credits
EN4402	English Composition II	3
AC6611	Introductory Accounting II*	3
	Mathematics Elective+	3
MK6678	Principles of Marketing**	3
BU4450	Introduction to Entrepreneurship	3

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Third Semester		Credits
MK6685	Marketing Entrepreneurial Ventures***	3
LW6651	Business Law I	3
FI3652	Business Finance†	3
PS1101	Introduction to Psychology+++ or	
SO3321	Introduction to Sociology+++	3
	Economics Elective	3
		15

Fourth Semester		Credits
FI3655	Planning/Finance for Entrepreneurs††	3
EC3652	Survey of Economics	3
PS1101	Introduction to Psychology+++ or	
SO3321	Introduction to Sociology+++	3
	Natural Science Elective	3/4
CI4401	Career Internship I or Business Elective†††	3
		15/16

+ Basic Math, Business Math, Basic Algebra, Liberal Arts Math I and II do not satisfy Math or elective requirements for Business Programs.

++ Students with computer keyboarding skills can waive Computerized Keyboarding I by passing the computer keyboarding assessment test. Students who choose not to take the assessment test, and those assessed with low keyboarding skills must take this course in their first semester.

+++ SO3324 Cultural Anthropology can be substituted for either Introduction to Psychology or Introduction to Sociology.

* Pre-requisite: A grade of C or better in AC6610 Introductory Accounting

** Pre-requisite: BU4400 Introduction to Business

*** Pre-requisite: A grade of C or better in MK6678 Principles of Marketing and BU4450 Introduction to Entrepreneurship

**** **Note:** Transfer students should take EC3322 Micro- sEconomics to receive transfer credit, non-transfer students can take EC3652 Survey of Economics

† Pre-requisite: AC6611 Introductory Accounting II

†† Pre-requisite: A grade of C or better in BU4450 Introduction to Entrepreneurship

††† Recommended Business Electives: AC6682 Tax Accounting (pre-requisite AC6611), BU4420 International Business, LW6653 International Business Law (pre-requisite LW6651), MK6681 Salesmanship, MK6688 Consumer Decision Making, MG6679 Advertising, SL6682 Business Communications

Study abroad opportunities are available in this program. Interested students should contact the Assistant Dean of Business for referral to the Study Abroad Program.

Business Management: Healthcare Practice Management Option

The associate in science degree program in Business Management Healthcare Practice Management Option is designed specifically for individuals with prior experience in a health care occupation, as it provides them with an opportunity to develop business management skills for positions within medical practice management. The course of study includes operations, human resource, financial management as well as administration of day to day operations. Candidates for this program are expected to have substantial experience in health care environments and desire career ladder advancement into management within a medical practice or other health care facility. Sixty-three to sixty-four credit hours of work are required for graduation (dependent upon elective options).

First Semester		Credits
EN4401	English Composition I	3
AC6610	Introductory Accounting I	3
	Mathematics Elective*	3
BU4400	Introduction to Business	3
CT6630	Introduction to Personal Computers	3
PS1101	Introduction to Psychology <i>or</i>	
SO3321	Introduction to Sociology***	3
		18
Second Semester		Credits
EN4402	English Composition II	3
AC6611	Introductory Accounting II	3
	Medical Administration Elective**	3/5
	Mathematics Elective*	3
PS1101	Introduction to Psychology <i>or</i>	
SO3321	Introduction to Sociology***	3
		15/17

Third Semester		Credits
EN8020	Interpersonal Communications <i>or</i>	
EN8011	Public Speaking	3
MG6666	Principles of Management	3
LW6651	Business Law I	3
	Science elective†	3/4
MG6676	Human Resources Management	3
		15/16

Fourth Semester		Credits
BU4410	Healthcare Practice Seminar	3
BU4415	Practice Management Practicum	3
	Economics Elective††	3
MR7701	Coding & Classification for Medical Billing†††	3
	Science Elective†	3/4
		15/16

* Basic Math and Basic Algebra; Liberal Arts Math I & II, and Business Math do not satisfy Math Elective requirements of business degree programs.

** Medical Administration electives include: MS1015 Fundamentals of Medical Assisting Administrative, MR7702 Medical Billing Administration, SL6680 Medical Office Administration

*** SO3324 Cultural Anthropology can be substituted for either Introduction to Psychology or Introduction to Sociology.

† Science electives include Integrated Science I & II, Anatomy & Physiology I & II.

†† Note: To receive transfer credit students should take EC3322 Micro-Economics, non-transfer students can take EC3652 Survey of Economics

††† Pre-requisite skills for MR7701 must be met.

Business Management: Total Quality Management Option

The associate in science degree program in Business Management with a Total Quality Management option prepares students to enter the management field with application knowledge of the latest concepts in workforce utilization, companywide management of process/product/service quality, customer service, productivity and continuous process improvement. The program draws upon both cognitive and affective skill-building to equip students with immediately marketable tools for management of manufacturing, quality, or service support positions and/or prepares them to go on to four-year programs. Sixty-nine to seventy-three credit hours of work are required for graduation.

First Semester		Credits
EN4401	English Composition I	3
AC6610	Introductory Accounting I	3
	Mathematics Elective*	3
BU4400	Introduction to Business	3
MG6620	Introduction to Total Quality Management	3
TW6650	Computerized Keyboarding I**	3

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Second Semester		Credits
EN4402	English Composition II	3
AC6611	Introductory Accounting II***	3
CT6630	Introduction to Personal Computers	3
	Mathematics Elective*	3
PS1101	Introduction to Psychology or	
SO3321	Introduction to Sociology	3
MG6625	Planning for Total Quality Mgmt.	3

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Third Semester		Credits
FI3652	Business Finance†	3
MK6678	Marketing††	3
EN8011	Public Speaking or	
EN8020	Interpersonal Communication	3
BU4430	Business Software Integration****	3
MG6630	Management of Total Quality Systems	3
MG6633	Process Control & Improvement	3

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Fourth Semester		Credits
	Economics Elective†††	3
MG6666	Principles of Management	3
LW6651	Business Law I	3
MG6635	Management of Product Design	3
PS1101	Introduction to Psychology or	3
SO3321	Introduction to Sociology	
	Natural Science Elective*	3/4

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* Basic Math, Basic Algebra, Basic Reading, Basic Writing, College Reading and other developmental courses do not satisfy Math, Business, Liberal Arts, Natural Science, or elective requirements.

** Students with computer keyboarding skills can waive TW6650 Computerized Keyboarding I by passing the computer keyboarding assessment test. Students who choose not to take the assessment test, and those assessed with low keyboarding skills must take this course in their first semester.

*** Pre-requisite: A grade of C or better in Introductory Accounting I

**** Pre-requisite: CT6630 Introduction to Personal Computers

† Pre-requisite: AC6611 Introductory Accounting II

†† Pre-requisite: BU4400 Introduction to Business

††† **Note:** Transfer students should take EC3322 Micro- Economics to receive transfer credit; non-transfer students can take EC3652 Survey of Economics.

Business Transfer†

The associate in science degree program in Business Transfer is designed for students planning to transfer to a four-year institution after completing the associate degree program. It provides study of basic liberal arts courses with transferable courses in business administration to provide a strong background for further study towards the bachelor's degree. Sixty-two to sixty-five credit hours of work are required for graduation.

First Semester		Credits
EN4401	English Composition I	3
AC6610	Introductory Accounting I	3
MA5615	College Algebra* or	3
MA5675	Calculus I for Business/Social/Life Sciences	
CT6630	Introduction to Personal Computers	3
PS1101	Introduction to Psychology or	
SO3321	Introduction to Sociology	3
TW6650	Computerized Keyboarding I**	3

15/18

Second Semester		Credits
EN4402	English Composition II	3
AC6611	Introductory Accounting II***	3
BU4430	Business Software Integration	3
EN8011	Public Speaking or	
EN8020	Interpersonal Communication	3
PS1101	Introduction to Psychology or	
SO3321	Introduction to Sociology	3

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Third Semester		Credits
EC3322	Micro Economics	3
	Natural Science	4
	Elective*	3
	Elective*	3
	Elective*	3
		16

Fourth Semester		Credits
EC3323	Macro Economics	3
	Natural Science	4
	Elective*	3
	Elective*	3
	Elective*	3
		16

Natural Science Requirement: Two 4-credit courses in natural science are recommended. In some instances a total of nine credits in 3-credit science courses may be accepted with divisional approval.

Mathematics Requirement: Since acceptable transfer courses vary among four year colleges, students should choose courses in accordance with the specific requirement of the college to which they are seeking admission. It may be necessary for some students to take more than the required two courses in mathematics since courses in Calculus for Business I & II are required for admission by some colleges.

Electives: A wide variety of electives is available to fill the requirements of specific colleges in regard to transfer credits. Students are advised to contact the college to which they are seeking transfer to determine courses that should be taken at Northern Essex Community College. Recommended in many instances would be courses in history and government, humanities, social sciences and mathematics. Many four year schools will also accept additional courses in Business Administration to satisfy their general elective requirements. Co-op I and II are not transferable electives.

* Basic Math, Basic Algebra, Basic Reading, Basic Writing, College Reading and other developmental courses do not satisfy Math, Business, Liberal Arts, Natural Science, or elective requirements.

** Students with computer keyboarding skills can waive TW6650 Computerized Keyboarding I by passing the computer keyboarding assessment test. Students who choose not to take the assessment test, and those assessed with low keyboarding skills must take this course in their first semester.

*** Pre-requisite: A grade of C or better in Introductory Accounting I

† See Commonwealth Transfer Compact requirements.

Coding Certificate

The one-year certificate program in Coding has been designed for students with no background in coding and classifying diseases and procedures. It is a career program and provides courses in medical terminology, anatomy and physiology and fundamentals of the disease process. Upon completion students may apply for entry level positions as coders in a variety of health care settings with flexible hours and a challenging workload. Credits in this program are fully applicable to the associate degree in Health Information Technology Program. Twenty-one credit hours of work are required for the certificate.

First Semester		Credits
MR6605	Introduction to Medical Language I	3
BI5519	Anatomy & Physiology I	4
		7
Second Semester		Credits
MR6606	Introduction to Medical Language II	3
BI5520	Anatomy & Physiology II	4
BI5530	Fundamentals of Disease Process	3
		10
Summer Semester†		Credits
MR6629	Medical Coding & Classification Systems	3
MR6630	* Coding Practicum	1
		4

* To be completed off campus at a health care facility site. Students must provide own transportation.

† Summer session courses offered only in the evening.

Community Support–Human Service Practitioner Certificate

The one-year certificate program in Community Support–Human Service Practitioner is designed to provide an opportunity for students to learn the theory and community support skills necessary to assist persons with emotional disability, mental illness, developmental disability, and substance abuse, in order to improve their quality of life and integrate the into mainstream of society. The curriculum includes knowledge of human services,

community networking and referrals, supportive counseling, teaching daily living skills (self care, social integration, community living skills, and money management), treatment modalities, principles of behavior management, group dynamics, confidentiality, and professional ethics of the human service practitioner. Supervised clinical experiences include residential programs, home support services, shelters, and independent living programs. The Program contains the National Community Support Skills standards and is approved by the Council for Standards in Human Service Education. Thirty-three credits are required for graduation, all of which may be applied toward the Associate Degree in Human Services. Complete college admission requirements: two letters of reference; personal interview; health examination; liability insurance (taken out at time of registration at the college as part of tuition costs) and demonstration of a serious commitment to working in the human services delivery system to improve the care and services to the mentally ill, emotionally disturbed, or developmentally disabled person in residential programs.

First Semester		Credits
EN4401	English Composition I	3
MH2111	Introduction to Human Services	3
GV3310	American Government & Politics	3
MH2133	Observation & Recording of Human Services Programs	1
MH2147	Group Dynamics	3
MH2145	Human Services Practicum in Residential Services I	4
		17
Second Semester		Credits
EN4402	English Composition II	3
PS1101	Introduction to Psychology	3
MH2156	Behavior Management Principles & Techniques	3
	Elective	3
MH2146	Human Services Practicum in Residential Services II	4
		16

Note: All courses with an "MH" prefix are restricted to students enrolled in the Human Services, Community Support Human Service practitioner or Alcohol/Drug Abuse Counseling programs. Other students may take MH prefix courses, depending upon class size, with written permission of the coordinator.

Computer-Aided Drafting Certificate

The thirty-week certificate program in Computer Aided Drafting (CAD) is designed to give students a thorough background in engineering drafting, experience in the use of a CAD system, and knowledge of how CAD fits into Computer Integrated Manufacturing. A minimum of twenty-five credit hours of work are required for the certificate. **Program Pre-requisite:** Two years of high school algebra or equivalent.

First Semester		Credits
ET6600	Engineering Drafting or	3
ET6601	Engineering Design Graphics	2
CT6630	Introduction to Personal Computers or	
CT6632	Personal Computer Applications	3
MA5621	College Algebra & Trigonometry*	4
CT6670	Introduction to CAD/CAM	3
TW6600	Computer Keyboarding I**	1
		13/14
Second Semester		Credits
CT6672	Computer Aided Drafting	3
EN4401	English Composition I	3
	Elective***	3/4
	Elective***	3/4
		12/14

* Students with a more advanced math background may substitute appropriate courses.

** For students without strong typing skills.

*** Recommended alternatives for electives: FA7096 Introduction to Graphic Design, FA7098 Illustration, CO4401 Cooperative Education, CT6601 Fundamentals of Digital Logic, CT6682 Computer Applications in Engineering & Technology, CT6632 Personal Computer Applications, CT6620 Programming I, and CT6642 PC Application Suites in Windows.

Computer and Information Sciences:
Computer Operations Option

The associate in science degree option in Computer Operations is a career-oriented program aimed at preparing students for careers in computer operations and operation management. The program includes training in software, hardware and computer operations. This program requires at least 61 credits. Category 1 and math credits must total 18. No prior knowledge of computers necessary.

First Semester (Fall)		Credits
CT6630	Introduction to Personal Computers	3
CT6626	Introduction to Information Processing/Basic	4
EN4401	English Composition I	3
	Mathematics Elective*	3/4
	Elective or	
	Computerized Keyboarding**	3
		16/17
Second Semester (Spring)		Credits
CT6641	Operating Systems	4
EN4402	English Composition II	3
	Mathematics Elective*	3/4
	Social Science Elective	3
CT5501	Personal Computer Maintenance/Repair	3
		16/17
Third Semester (Fall)		Credits
CT6643	Computer Operations Experience or	
CO4401	Cooperative Education	3/4
MG6666	Principles of Management	3
	Category I Elective***	3/4
	Humanities Elective	3
	Elective	3
		15/17
Fourth Semester (Spring)		Credits
	Programming Elective	4
	Category I Elective***	3/4
	Category I Elective ***	3/4
	Social Science/Humanities Elective	3
		13/15

* Refer to Math Chart on page 106.

** Students must have a keyboarding skill of 25 words per minute with no more than one error per minute on unfamiliar material, or TW6650 Computerized Keyboarding I must be taken in the first semester. Electives may not include any developmental courses such as basic math, basic algebra, basic reading or basic writing.

*** Category I electives include upper level math courses, business courses, or any offering from the Computer & Information Sciences, Natural Science, Engineering, or Technology departments.

Computer and Information Sciences:
Personal Computer Specialist Option

The associate in science degree option in Computer and Information Sciences: Personal Computer Specialist has been designed to serve the needs of the career-oriented student who wishes to find employment as a personal computer specialist. This program provides training in software, hardware and computer networks. Sixty-one credit hours of work are required for graduation. No prior knowledge of computers is necessary.

First Semester (Fall)		Credits
CT6626	Introduction to Information Processing/BASIC	4
CT6630	Introduction to Personal Computers	3
EN4401	English Composition I	3
	Math Elective*	3/4
	Elective <i>or</i>	
	Computerized Keyboarding**	3
		16/17

Second Semester (Spring)		Credits
CT5501	Personal Computer Maintenance/Repair	3
CT6641	Operating Systems	4
EN4402	English Composition II	3
	Math Elective*	3/4
	Programming Elective****	4
		17/18

Third Semester (Fall)		Credits
CT6632	Personal Computer Applications	3
CT6645	Introduction to Computer Networks	3
	Category Elective***	3/4
	Humanities Elective	3
	Social Science Elective	3
		15/16

Fourth Semester (Spring)		Credits
CT6681	Advanced Data Base Management Software	4
	Category Elective***	3/4
	Social Science/Humanities Elective	3
	Elective	3/4
		13/15

* Math chart starting at the level of MA5501 Intermediate Algebra.

** Students must have a keyboarding skill of 25 words per minute or TW6650 Computerized Keyboarding I must be taken in the first semester.

*** Category electives: CT6670 Introduction to CAD/CAM, CT6620 Fundamentals of Digital Logic, ET6690 Microcomputers, Accounting, Business Management, Cooperative Education courses, or Category I electives from the Personal Computer Certificate.

**** CT6620 Programming I

Electives may not include any developmental courses such as basic math, basic algebra, basic reading or basic writing.

Computer and Information Sciences:
Programming Option

The associate in science degree program in Computer and Information Sciences: Programming Option is designed to serve the needs of a variety of students whose goals may vary from employment after graduation to transferring to a four year college majoring in computer science or computer information systems (CIS). Category electives allow students to plan their future by focusing on one of four career objectives: computer science transfer, CIS transfer or employment in the business or technical programming career paths. Students should consult with their faculty advisor to plan courses. Sixty-five to seventy-one credit hours of work are required for graduation. **Program Pre-requisite:** Two years of high school algebra or equivalent.

First Semester		Credits
EN4401	English Composition I	3
MA5614	Introduction to Discrete Mathematics	3
CT6620	Programming I	4
CT6632	Personal Computer Applications	3
	Elective or Computerized Keyboarding*	3
		16
Second Semester		Credits
EN4402	English Composition II	3
	Math Elective**	3/4
CT6640	Programming II	4
	Humanities Elective	3
	Category Elective***	3/4
		16/18
Third Semester		Credits
	Math Elective**	3/4
	Programming Elective	4
	Category Elective***	3/4
	Social Science Elective	3
CT6649	Assembly Language Programming	4
		17/19
Fourth Semester		Credits
CT6655	Programming III	4
	Category Elective***	3/4
	Category Elective***	3/4
	Social Science/Humanities Elective	3
	Elective	3
		16/18

* Students must have a keyboarding skill of 25 words per minute or TW6650 Computerized Keyboarding I must be taken in the first semester.

** Math chart for computer programs starting at the level of MA5621 College Algebra & Trigonometry.

*** Category electives: see academic advisor for category elective selection guides for the path you wish to follow. CT6630 Introduction to Personal Computers may not be used. Electives may not include any developmental courses such as basic math, basic algebra, basic reading or basic writing.

Technical Writing is highly recommended as an elective.

Students wishing to transfer to a bachelor's program should have two social science electives: Western Civilization I and Western Civilization II, one humanities elective and a minimum grade of C in all programming courses.

Note the Following: CIS Programming Majors
It is important for you to check with the college or university you wish to transfer to. Your category electives can be changed to meet the requirements of the transfer institution.

Requirements for each programming option:

COMPUTER SCIENCE (CS) TRANSFER -
CATEGORY ELECTIVES

MA5690	Calculus I &
MA5692	Calculus II (math electives)
PI5623	Engineering Physics I &
PI5624	Engineering Physics II
CT6651	Computer Systems Programming

TECHNICAL - CATEGORY ELECTIVES:

MA5621	College Algebra & Trigonometry &
MA5622	Advanced Algebra & Trigonometry (math electives)
CT6651	Computer Systems Programming
CO4401	Cooperative Education I

COMPUTER & INFORMATION SCIENCES
(CIS) TRANSFER - CATEGORY ELECTIVES:

AC6610	Accounting I &
AC6611	Accounting II
CT6681	Advanced Database Management Software
CT6665	Visual Basic Programming

BUSINESS - CATEGORY ELECTIVES:

AC6610	Accounting I &
AC6611	Accounting II
CT6681	Advanced Database Management Software
CT6665	Visual Basic Programming
CO4401	Cooperative Education I

Computer Maintenance Technology

The associate in science degree program in Computer Maintenance Technology is designed as a career program to train students for positions as technicians skilled in digital computer software and hardware. Students concentrate primarily on analyzing and troubleshooting digital electronic circuits and systems and secondarily on programming in Assembly Language and higher level languages. Laboratories emphasize hands-on experience with up-to-date computers and electronic instruments. A minimum of sixty-five credit hours of work are required for graduation. **Program Pre-requisite:** Two years of high school algebra or equivalent.

First Semester		Credits
MA5621	College Algebra & Trigonometry	4
ET6611	Circuit Analysis I	4
CT6601	Fundamentals of Digital Logic	3
EN4401	English Composition I	3
CT6603	Digital Logic Laboratory	1
		15
Second Semester		Credits
MA5622	Advanced Algebra & Trigonometry	4
CT5501	PC Maintenance & Repair	3
ET6612	Circuit Analysis II	4
ET6672	Electronics I	5
TW6600	Computer Keyboarding I	1
		15
Third Semester		Credits
EN4402	English Composition II	3
ET6630	Electronics II	5
ET6682	Digital Electronics	4
CT6645	Introduction to Computer Networks	3
	Humanities/Social Science Elective	3
		18
Fourth Semester		Credits
CT6646	Computer Networks II	3
ET6690	Microcomputers	4
ET6683	Digital Communications	3
	Technical Elective *	3/4
	Humanities/Social Science Elective	3
		16/17

***Technical Elective:**

- ET6645 Robotics
- ET6684 Electronic Communications Systems
- CT6620 Programming I
- CT6630 Introduction to PCs
- CT6641 Introduction to Operating Systems
- CT6670 Introduction to CAD/CAM

Criminal Justice

The associate in science degree program in Criminal Justice describes and analyzes the various aspects of the criminal justice system. The curriculum is designed to take a systems approach in understanding the crime problem in the U.S. The program is structured to prepare students for professional careers, whether they are pre-service or already working in the criminal justice field. It is recognized that a majority of criminal justice students continue their criminal justice education at four-year institutions. Consequently, the curriculum has a broad, academic orientation facilitating transfer to four year institutions. Sixty-three to sixty-six credit hours of work are required for graduation.

First Semester		Credits
EN4401	English Composition I	3
	Math Elective*	3/4
SO3321	Introduction to Sociology	3
PH1150	Practical Logic	3
CJ3603	Introduction to Criminal Justice	3
		15/16
Second Semester		Credits
EN4402	English Composition II	3
GV3310	American Government & Politics	3
SO3353	Introduction to Criminology	3
CJ3607	Functions of Police in Modern Society	3
CJ3610	Introduction to Security	3
		15

Third Semester		Credits
CT6630	Introduction to Personal Computers	3
	Elective**	3
CJ3667	Crisis Intervention in Criminal Justice System	3
PS1101	Introduction to Psychology	3
CJ3601	Concepts of Criminal Law	3
	Natural Science Elective***	3/4
		18/19
Fourth Semester		Credits
GV3315	Civil Rights & Liberties	3
CJ3608	Introduction to Corrections	3
CJ3670	Senior Seminar† or	
CJ3672	Field Practicum	3
	Natural Science Elective***	3/4
	Elective**	3
		15/16

* Basic Math, Basic Algebra and Intermediate Algebra are generally not accepted for transfer or to meet the standards of the Commonwealth Transfer Compact.

** Students must choose two additional humanities courses to meet requirements of the Commonwealth Transfer Compact. Select humanities electives from the following catalog categories: foreign languages, communication, philosophy, art, music, literature, religion and theatre. Courses other than humanities may be selected but transfer students are advised to check requirements of the institution to which they seek to transfer.

*** Natural Science Elective: Select courses from the following catalog categories: biology, chemistry, earth sciences or science. Students seeking to transfer require two laboratory science courses (4 credits each) to meet the standards of the Commonwealth Transfer Compact.

Deaf Studies: American Sign Language Option

The associate in science degree in Deaf Studies: American Sign Language Option has been designed to provide students with a broad educational experience, including the balance and diversity of general education and the knowledge and skills of American Sign Language (ASL). Students are provided the opportunity to develop an understanding of American Sign Language, Deaf Culture and the world around them. Graduates will be able to both continue their education at other institutions of higher learning and to gain employment in group homes, sheltered workshops and other facilities providing services for deaf people as the program provides for career exploration within the deaf community and the basic academic preparation for transfer to bachelor degree programs. Sixty-two to sixty-four credit hours of work are required for graduation. **Program Pre-requisites:** AL1001 Introductory ASL I and AL1002 Introductory ASL II with a 'B' or better or demonstrate comparable skills/knowledge; demonstrate sufficient skills/knowledge to enter English Composition I and Liberal Arts Math I (options exist for underprepared students).

First Semester		Credits
AL1003	American Sign Language I	4
IN1010	Introduction to the Deaf Community	3
IN1041	Introduction to Practicum	2
EN4401	English Composition I	3
	Science Elective*	3/4
		15/16

Second Semester		Credits
AL2003	American Sign Language II	4
IN1030	Introduction to the Interpreting Field	3
EN4402	English Composition II	3
	Science Elective*	3/4
	Behavioral Science Elective**	3
		16/17

Third Semester		Credits
AL3003	American Sign Language III	4
	Elective	3
	Elective	3
	Math Elective***	3
AL3010	Deaf Literature & ASL Folklore	3
		16

Fourth Semester		Credits
IN4033	American Sign Language IV	3
	Elective	3
	Elective	3
SO3361	Introduction to Deaf Culture	3
GV3312	Introduction to Political Science	3
		15

* Any Science elective. Students wishing to meet the requirements of the Commonwealth Transfer Compact must take two, four-credit Science electives. For transfer to other Colleges/Universities check with the appropriate College/University and/or program for their requirements.

** SO3321 Introduction to Sociology or SO3324 Cultural Anthropology

*** MA5520 Liberal Arts Math I, MA5615 College Algebra or higher

Deaf Studies: Sign Language
Interpreter Option

The associate in science degree in Deaf Studies: Sign Language Interpreter Option is designed to provide students with a broad educational experience based on a balance and diversity of general education, American Sign Language (ASL) and interpreting courses. Students are provided the opportunity to develop an understanding of the profession of interpreting for deaf and hearing individuals and the knowledge, attitude and skills necessary to function as entry-level professional interpreters. The program also provides for career exploration within the deaf community and the basic academic preparation for possible transfer to bachelor degree programs. Sixty-four to sixty-six credit hours of work are required for graduation. **Program Pre-requisites:** AL1001 Introductory ASL I and AL1002 Introductory ASL II with a 'B' or better or demonstrate comparable skills/knowledge; demonstrate sufficient skills/knowledge to enter English Composition I and Liberal Arts Math I (options exist for underprepared students).

First Semester		Credits
AL1003	American Sign Language I	4
IN1010	Introduction to the Deaf Community	3
EN4401	English Composition I	3
	Science Elective*	3/4
	Behavioral Science Elective**	3
		16/17
Second Semester		Credits
AL2003	American Sign Language II	4
IN1030	Introduction to the Interpreting Field	3
IN1041	Introduction to Practicum	2
EN4402	English Composition II	3
	Science Elective*	3/4
		15/16

Third Semester		Credits
AL3003	American Sign Language III	4
IN2029	Interpreting	4
IN2039	Practicum I	3
	Math Elective***	3
AL3010	Deaf Literature & ASL Folklore	3
		17
Fourth Semester		Credits
AL4003	American Sign Language IV	3
IN2033	Advanced Interpreting	4
IN2041	Practicum II	3
S03361	Introduction to Deaf Culture	3
GV3312	Introduction to Political Science	3
		16

* Any Science elective. Students wishing to meet the requirements of the Commonwealth Transfer Compact must take two, four-credit Science electives. For transfer to other Colleges/Universities check with the appropriate College/University and/or Program for their requirements.

** S03321 Introduction to Sociology or S03324 Cultural Anthropology

*** MA5520 Liberal Arts Math I, MA5615 College Algebra or higher

Deaf Studies: Sign Language Interpreter Certificate

The certificate program in Sign Language Interpreter is designed to provide students with an opportunity to develop an understanding of the profession of interpreting for deaf and hearing individuals and the knowledge, attitude and skills necessary to function as entry-level professional interpreters. The program also provides for career exploration within the deaf community. Credits earned in the certificate program may be applied toward associate degree requirements in Sign Language Interpreter Option. Forty-three credit hours of work are required for the certificate. **Program Pre-requisites:** The certificate is available only to people who have 32 or more earned college/university liberal arts/general education credit hours including English Composition I; completing AL1001 Introductory ASL I and AL1002 Introductory ASL II with a 'B' or better or possess comparable skills/knowledge. The following sequence of courses requires completion in two years by all students. For more information, see the coordinator.

First Semester		Credits
AL1003	American Sign Language I	4
IN1010	Introduction to the Deaf Community	3
		7
Second Semester		Credits
AL2003	American Sign Language II	4
IN1030	Introduction to the Interpreting Field	3
IN1041	Introduction to Practicum	2
		9
Third Semester		Credits
AL3003	American Sign Language III	4
IN2029	Interpreting	4
IN2039	Practicum I	3
AL3010	Deaf Literature & ASL Folklore	3
		14
Fourth Semester		Credits
AL4003	American Sign Language IV	3
IN2033	Advanced Interpreting	4
IN2041	Practicum II	3
S03361	Introduction to Deaf Culture	3
		13

Dental Assistant Certificate

The Dental Assistant certificate provides the student with knowledge and practical skills required to perform dental assisting functions competently. Three-hundred hours of practical experience is provided in local dental offices to perfect the student's competence in performing dental assisting functions. The program is accredited by the Commission on Dental Accreditation of the American Dental Association. Students who successfully pass the Certification for Dental Assistants examination sponsored by the Dental Assisting National Board, Inc. become Certified Dental Assistants. Thirty-five credit hours of work are required for the certificate. A personal interview is required prior to admission.

First Semester		Credits
DA0101	Dental Assisting I	9
DA0130	Dental Radiology I	2
DA0135	Dental Science	3
EN4401	English Composition I	3
PS1101	Introduction to Psychology	3
		20
Second Semester		Credits
DA0202	Dental Assisting II	4
DA0250	Dental Radiology II	1
DA0275	Dental Seminar	1
DA0280	Dental Assisting Practicum	5
BI5510	Human Biology	3
CT3301	Computer Literacy for Health Professionals	1
		15

Student Liability Insurance: All Dental Assistant students are required to carry student liability insurance. The premium is to be paid prior to the beginning of classes.

Health: Dental Assistant students are required to complete a health evaluation prior to final acceptance to the program.

C.P.R. Certification: All Dental Assistant students are required to be C.P.R. certified (Basic Life Support Level C or Health Care Provider) prior to their first clinical assignment in the Spring semester. This may be accomplished by participating in C.P.R. instruction by the American Heart Association or the American Red Cross.

Early Childhood Education

The associate in science degree program in Early Childhood Education is career oriented and trains students for a professional role in early childhood education. How children grow, develop and learn will become more meaningful through course work, directed observation and the study of the young child as an individual and as he/she functions in a variety of group settings. An integral part of this program is, therefore, the practicum placement which allows the student to apply theory and new skills, under guidance and supervision, in a variety of classrooms and educational programs. The program also provides the foundation for further study at a four year college. This program requires sixty-six or sixty-eight credit hours of work for graduation. **Admission Conditions:** Letters of reference and a personal interview with the Curriculum Coordinator.

First Semester		Credits
EN4401	English Composition I	3
PS1101	Introduction to Psychology	3
BI5510	Human Biology/Natural Science Elective	3/4
CC2230	ECE: Theory & Practice	4
CC2244	Enhancing Creativity in EC Curriculum	3
EN8011	Public Speaking	3
		19/20
Second Semester		Credits
EN4402	English Composition II	3
PS1151	Child Psychology	3
CC2312	Practicum I	3
CC2245	Language/Reading Development in EC	3
	Natural Science Elective	3/4
		15/16

Third Semester		Credits
CC2353	Practicum II	4
PS2112	Problems of EC	3
	Humanities Elective*	3
	Math Requirement***	3
CC2240	Expressive Learning Activities in Early Childhood Curriculum	3
		16
Fourth Semester		Credits
CC2264	Seminar in Philosophy ECE	3
CC2354	Practicum III	4
GV3310	American Government & Politics	3
	Elective**	3
CC2260	Math/Science for EC Curriculum	3
		16

* Humanities electives include foreign languages, philosophy, art, music, literature, religion, theatre, dance, photography.

** Persons who wish to transfer to other colleges after graduation should elect a course which satisfies requirements of those colleges and/or the Commonwealth Transfer Compact.

*** Specific college level math course to be determined by students in consultation with their advisor.

Students must maintain a grade of C or above in all CC and/or ED prefixed courses to proceed to the next semester's sequence in Early Childhood Education. Students whose grades fall below this level may continue only with the permission of the Early Childhood Coordinator.

Health: All students entering the Program must submit a report of a medical examination by a physician and documentation of a completed Mantoux (tuberculosis) test and MMR inoculation prior to beginning the program.

Note: Prior to graduation, all Early Childhood students must obtain certification in Basic First Aid and in CPR for children. This may be accomplished by participating in instruction offered by the American Red Cross, local hospitals or any equivalent training.

Electronic Equipment Technology Certificate

The one-year certificate program in Electronic Equipment Technology is designed to prepare students for employment, often as entry level Electronic Equipment Servicing Technicians, with immediately marketable skills in electronic theory and with hands on laboratory experiences. Twenty-eight credit hours of work are required for this certificate. **Program Pre-requisite:** High school diploma or equivalent and one year of high school Algebra.

First Semester		Credits
MA5621	College Algebra & Trigonometry*	4
ET6611	Circuit Analysis I	4
CT6601	Fundamentals of Digital Logic	3
CT6603	Digital Logic Laboratory	1
CT5501	PC Maintenance & Repair	3
		15
Second Semester		Credits
ET6612	Circuit Analysis II	4
ET6672	Electronics I	5
ET6690	Microcomputers	4
		13

* MA5621 College Algebra & Trigonometry may be postponed to the second semester if MA5501 Intermediate Algebra is required.

** Cooperative Education is a desirable addition to the program and highly recommended.

Electronic Technology

The associate in science degree program in Electronic Technology is designed primarily to prepare students for employment (often as an engineering assistant) with immediately marketable skills in electronic techniques. Heavy emphasis is put on use of state-of-the-art devices and laboratory equipment, and the preparation of complete, analytical laboratory reports. A minimum of sixty-eight credit hours of work are required for graduation. **Program Pre-requisite:** Two years of high school algebra, geometry and trigonometry helpful, but not required.

First Semester		Credits
EN4401	English Composition I	3
MA5621	College Algebra & Trigonometry	4
ET6611	Circuit Analysis I	4
CT6601	Fundamentals of Digital Logic	3
CT6603	Digital Logic Laboratory	1
TW6600	Keyboarding for Computers I	1
		16
Second Semester		Credits
MA5622	Advanced Algebra & Trigonometry	4
ET6612	Circuit Analysis II	4
ET6672	Electronics I	5
ET6690	Microcomputers* or Technical Elective**	3/4
		16/17
Third Semester		Credits
EN4402	English Composition II	3
PI5621	Applied Physics I	4
ET6673	Electronics II	5
ET6682	Digital Electronics	4
	Humanities/Social Science Elective	3
		19
Fourth Semester		Credits
PI5622	Applied Physics II	4
ET6690	Microcomputers* or Technical Elective**	3/4
ET6684	Electronic Communication Systems	4
ET6683	Digital Communications	3
	Humanities/Social Science Elective	3
		17/18

* ET6690 Microcomputers is required for graduation.

** Technical Electives: CT5501 PC Maintenance & Repair, CT6630 Intro to Personal Computers, CT6632 Personal Computer Applications, CT6682 Engineering Computer Applications

Electronic Technology: Biomedical Option

The associate in science degree program in Electronic Technology Biomedical Option is a career program designed to train students for employment with immediately marketable skills as technicians in biomedical electronic technology. Emphasis is on use of electronic devices and laboratory equipment and the maintenance and repair of medical electronics equipment. Sixty-three credit hours of work are required for graduation. **Program Pre-requisite:** Two years of high school algebra, geometry and trigonometry helpful, but not required.

First Semester		Credits
EN4401	English Composition I	3
MA5621	College Algebra & Trigonometry	4
ET6611	Circuit Analysis I	4
CT6601	Fundamentals of Digital Logic	3
CT6603	Digital Logic Laboratory	1
ET6010	Intro to Medical Electronics & Clinical Safety	1
		16
Second Semester		Credits
MA5622	Advanced Algebra & Trigonometry	4
ET6612	Circuit Analysis II	4
ET6672	Electronics I*	5
BI5510	Human Biology	3
		16
Third Semester		Credits
EN4402	English Composition II	3
ET6673	Electronics II	5
ET6040	Medical Equipment Troubleshooting	3
TW6600	Keyboarding for Computers I	1
	Humanities/Social Science Elective	3
		15
Fourth Semester		Credits
ET6690	Microcomputers	4
CO4401	Cooperative Education I**	3
CT5501	PC Maintenance & Repair	3
	Category Elective***	3/4
	Humanities/Social Science Elective	3
		16/17

* ET6030 Medical Electronics Systems Operation completed with a minimum grade of B may be substituted for ET6672 with prior permission of the Chairperson of the Electronic Technology Department.

** The student is responsible for transportation to and from the cooperative education site. On occasion, off or on site student conferences may be scheduled. Students are expected to meet the health requirements of the cooperative education site. Liability Insurance is required at a number of sites. The insurance is to be paid prior to the beginning of the cooperative education experience. Students are required to contact the Cooperative Education office by the end of the first semester to initiate their experience.

*** Category Electives: CT6630 Intro to Personal Computer, CT6632 Personal Computer Applications, CT6645 Intro to Computer Networks

Electronic Technology: Computer Systems Option

The associate in science degree option in Computer Systems is designed to train students as computer technicians. A foundation in analog electronics is combined with courses in digital and computer applications. A minimum of sixty-six credits is required for graduation. **Program Pre-requisite:** Two years of high school algebra, geometry and trigonometry are recommended.

First Semester		Credits
EN4401	English Composition I	3
MA5621	College Algebra & Trigonometry	4
ET6611	Circuit Analysis I	4
CT6601	Fundamentals of Digital Logic	3
CT6603	Digital Logic Laboratory	1
TW6600	Keyboarding for Computers I	1
		16
Second Semester		Credits
MA5622	Advanced Algebra & Trigonometry	4
ET6612	Circuit Analysis II	4
ET6672	Electronics I	5
CT5501	PC Maintenance & Repair	3
		16
Third Semester		Credits
EN4402	English Composition II	3
ET6673	Electronics II	5
ET6682	Digital Communications	4
	Technical Elective*	3/4
	Humanities/Social Science Elective	3
		18/19
Fourth Semester		Credits
ET6690	Microcomputers	4
ET6684	Electronic Communication Systems	4
ET6683	Digital Communications	3
	Technical Elective*	3/4
	Humanities/Social Science Elective	3
		17/18

* **Technical Electives:** Both electives must be from the same sequence as listed below.

Network Sequence: CT6645 Introduction to Computer Networks, CT6646 Computer Networks II.

Software Application Sequence: CT6630 Introduction to Personal Computers, CT6632 Personal Computer Applications, CT6642 PC Application Suites in Windows.

Programming Sequence: CT6620 Programming I and CT6640 Programming II, or CT6626 Introduction to Data Processing with BASIC and CT6655 Visual BASIC, or CT6620 Programming I and CT6684 "C" Programming.

CAD Sequence: ET6601 Engineering Design Graphics, CT6670 Introduction to CAD/CAM, CT6672 Computer Aided Drafting.

Engineering Science

The associate in science degree program in Engineering Science is designed to prepare an engineering student for transfer to a four-year college or university. A core curriculum has been developed in cooperation with the American Association for Engineering Education and engineering divisions of several four-year institutions. The core curriculum allows students an opportunity to explore various engineering fields equipping him/her to choose the field of specialization best suited to their interests and abilities. The fields of engineering include chemical, industrial, electrical, civil, environmental, and mechanical. A strong background in mathematics is required. A minimum of sixty-nine credit hours of work are required for graduation. **Program Pre-requisite:** Two years of algebra; geometry; trigonometry; one year of physics or chemistry.

First Semester		Credits
EN4401	English Composition I	3
MA5690	Calculus I	4
	Chemistry Elective*	4
ET6601	Engineering Design Graphics	2
	Programming Elective**	4
		17
Second Semester		Credits
EN4402	English Composition II	3
MA5692	Calculus II	4
PI5623	Engineering Physics I	4
	Chemistry Elective* or	
	Technical Elective†	4
	Communications Elective††	3
		18
Third Semester		Credits
MA5693	Calculus III	4
PI5624	Engineering Physics II†††	4
ET6651	Engineering Mechanics I	3
	Technical Elective†	3/4
	Humanities/Social Science	
	Elective***	3
		17/18
Fourth Semester		Credits
PI5651	Engineering Physics III†††	4
	Technical Elective†	4
	Free Elective	3/4
	Humanities/Social Science	
	Elective***	3
	Social Science Elective***	3
		17/18

* This elective can be either the Introductory Chemistry sequence (CH5503, CH5504) or the General Chemistry sequence (CH5501, CH5502) depending on the background needs of the student and the requirements of the branch of engineering into which the student wishes to transfer. Students transferring to University of Massachusetts Lowell in either Mechanical or Electrical/Computer Engineering are not required to take a second chemistry elective.

** This elective can be either CT6620 Programming I or CT6682 Computer Applications in Engineering & Technology. See an Engineering Department faculty member before choosing a programming elective.

*** Humanities/Social Science Electives: Either EC3322 Micro Economics or EC3323 Macro Economics or both may be used to satisfy part of this requirement. During the first semester the student should contact the college to which he/she plans to transfer and then select both technical and general electives to fulfill transfer goals.

† Proposed technical electives from outside the lists below will be considered, but must be approved by the Chairperson, Department of Engineering Science.

Suggested Technical Electives for the various engineering branches (this list is not to be considered complete):

Civil Engineering: Micro/Macro Economics, Surveying I & II, Differential Equations, Statistics, Strength of Materials, Engineering Mechanics II-Dynamics, Thermodynamics, Circuit Analysis I, Programming I, Computer Applications in Engineering & Technology.

Electronic/Electrical Engineering: Micro/Macro Economics, Differential Equations, Fundamentals of Digital Logic, Digital Logic Lab, Networks I & II.

Mechanical Engineering: Micro/Macro Economics, Differential Equations, Engineering Mechanics II-Dynamics, Strength of Materials, Thermodynamics, Computer Aided Drafting.

Environmental Engineering: Micro/Macro Economics, Differential Equations, Engineering Mechanics II-Dynamics, Strength of Materials, Thermodynamics, Introductory Biology, Microbiology.

Chemical Engineering: Micro/Macro Economics, Differential Equations, Thermodynamics, Organic Chemistry.

†††The Communication Elective is considered to be any of the English offerings (courses with an EN prefix). Highly recommended are EN8011 Public Speaking and EN8020 Interpersonal Communications. Students intending to transfer to the University of Massachusetts Lowell should select a literature course.

†††An appropriate technical elective may be substituted for PI5624 or PI5651 if neither is required by a baccalaureate program into which a student is transferring.

General Studies

The associate in arts degree in General Studies is designed to provide a flexible curriculum which combines a core of transfer courses (the program meets the requirements of the Commonwealth Transfer Compact if two, four-credit lab science courses are completed) with an opportunity to explore occupational courses in such career areas as engineering, computer science, management and health professions. It is a practical program for students undecided about career objectives. Thirty-four to thirty-five credit hours of work in core requirements plus 3 credits in Liberal Arts electives plus 24 free electives – a total of sixty-one or sixty-two credits are required for graduation.

Core Requirements: 35/36 Credits	Credits
Composition I & II	6
Behavioral Sciences	3
Foreign Languages/Philosophy/Religion/Creative Arts	3
History/Government*	3
Humanities	3
Literature	3
Mathematics**	3
Social Science	3
Natural Science***	7/8
Electives: 27 Credits	Credits
Liberal Arts Electives†	3
Free Electives††	24

* It should be noted that Salem State and University of Massachusetts at Boston require Western Civilization I and II or World Civilization I and II for graduation in most programs. Political Science carries government credit.

** Any math course except the following: MA0020 Basic Mathematics, MA0030 Basic Algebra and MA5501 Intermediate Algebra, MA5613 Business Math.

*** Natural Science Elective: Select courses from the following catalog categories: biology, chemistry, earth science or physics. Students seeking to meet the standards of the Commonwealth Transfer Compact for transfer must complete two laboratory science courses (4 credits each).

† Any course which falls within the disciplines of the core requirements.

†† May include courses outside Liberal Arts.

General Studies: Graphic Design Option

The associate in arts degree option in Graphic Design has two objectives: to develop skills used in design, layout, reproduction, advertising, and other graphic arts professions; and to prepare students for professional schools and advanced work in design, advertising, or desktop publishing. Part-time students will require more than two years to complete this program. This program offers practical training in the skills needed for entry-level jobs in the commercial design field, an exposure to career possibilities in graphic communication and a chance to develop a number of transferable skills. Courses in this program core also available as electives for business and technology students on a space available basis. Understanding graphic design and commercial illustration will enrich almost any field of study, provide personal enrichment and enhance cultural growth in the arts. Sixty-three credit hours are required for graduation.

First Semester	Credits
EN4401 English Composition I	3
FA7030 Drawing I	3
FA7121 Macintosh Design	3
FA7096 Graphic Design I	3
HI9901 Western Civilization I	3
	15
Second Semester	Credits
EN4402 English Composition II	3
FA7080 Color & Design	3
FA7097 Graphic Design II	3
FA7122 Publication Design	3
HI9902 Western Civilization II	3
	15

Third Semester		Credits
	Natural Science**	4
FA7126	Advanced Publication Design	3
PS1101	Introduction to Psychology or	
SO3324	Cultural Anthropology	3
FA9001	Illustration I	3
FA7031	Drawing II	3
FA7211	Portfolio for Graphic Design†	1

16/17

Fourth Semester		Credits
	Natural Science**	4
	Literature	3
	Math***	3
MK6679	Advertising or	
MG6686	Small Business Management	3
	Art Elective*	3
FA7211	Portfolio for Graphic Design†	1

16/17

* Recommended: FA7130 Animation, FA7051 Introductory Photography, Graphic Design Internship (Co-op), FA9005 Computer Illustration.

** Recommended: Introduction to Biology I & II, Anatomy & Physiology I & II.

*** See math requirements for General Studies program. For some students, HU4401 Art, Math & Nature may be used for math requirement.

† May be taken during either the third or fourth semester.

General Studies: Illustration Option

The associate in arts degree option in Illustration is a two-year program for art students who are interested in pursuing a career in visual communication. Required course work includes business studies, managing projects from concept to final form, and portfolio development. It is designed to teach students the entry-level skills used in a commercial studio; and to prepare students for advanced work in four-year colleges, business, design, and advertising. Sixty-three credit hours are required for graduation.

First Semester		Credits
EN4401	English Composition I	3
FA7030	Drawing I	3
HI9901	Western Civilization I	3
FA7080	Color & Design	3
FA7121	Macintosh Design	3

15

Second Semester		Credits
EN4402	English Composition II	3
FA7031	Drawing II	3
HI9902	Western Civilization II	3
FA9001	Illustration I	3
FA7096	Graphic Design I	3

15

Third Semester		Credits
	Natural Science*	4
MK6679	Advertising	3
PS1101	Introduction to Psychology or	
SO3324	Cultural Anthropology	3
FA7210	Portfolio for Illustration†	1
FA9002	Illustration II	3
FA9005	Computer Illustration	3

16/17

Fourth Semester		Credits
	Natural Science*	4
	Literature Elective	3
	Math Elective **	3
FA7210	Portfolio for Illustration†	1
FA7045	Figure Drawing	3
FA7130	Animation	3

16/17

* Recommended: Introduction to Biology I & II or Anatomy & Physiology I & II.

** Any math course acceptable in General Studies program. For some students, HU4011 Art, Math & Nature may be used for math requirement.

*** Recommended Electives: Publication Design, Animation, Introduction to Photography, Painting I, Graphic Design II, Graphic Design Internship (Co-op), Computer Illustration.

† Can be taken during either the third or fourth semester.

Graphic Design/Desktop Publishing Certificate

The program is designed to include computer graphic applications plus additional graphic design and business courses. During the day, it can be completed in two semesters and one summer session. There are nine required courses (twenty-seven credits) for the certificate. Optional recommended courses are available.

First Semester		Credits
EN4401	English Composition I	3
FA7030	Drawing I	3
FA7096	Graphic Design I	3
FA7121	Macintosh Design	3
		12
Second Semester		Credits
FA7097	Graphic Design II	3
FA7122	Publication Design	3
FA9005	Computer Illustration	3
MG6686	Small Business Management <i>or</i>	
MK6679	Advertising	3
		12
Summer Session		Credits
FA7126	Advanced Publication Design	3
		3

Recommended Additional Courses: FA7130 Animation, CO4401 Cooperative Education I, FA7130 Color & Design

Health Information Technology

The associate in science degree program in Health Information Technology provides students an opportunity to take liberal arts courses and to apply knowledge obtained in technical courses through direct application in a clinical setting located off campus. Students who wish to continue their education in a four-year institution should choose electives which will fulfill the transfer requirements of the institution they choose. Job opportunities in hospitals, extended care facilities, mental health facilities, skilled

nursing facilities, ambulatory care settings, community health centers, state and local health departments, regional medical programs and rehabilitation centers are available. The program is accredited by the American Medical Association's Committee on Allied Health Education and Accreditation, in collaboration with the American Health Information Management Association. Students who complete requirements for graduation are eligible to take the national accreditation examination of the American Health Information Management Association. Sixty-eight credit hours are required for graduation. For more information, see an advisor.

First Semester		Credits
EN4401	English Composition I	3
BI5519	Anatomy & Physiology I	4
MR6605	Introduction to Medical Language I	3
MR6601	Medical Record Science I	3
HS6651	Introduction to Health Services	3
		16
Second Semester		Credits
EN4402	English Composition II	3
BI5520	Anatomy & Physiology II	4
MR6606	Introduction to Medical Language II	3
MR6602	Medical Record Science II	3
MR6620	Directed Practice I*	4
CT3301	Computer Literacy for Health Professionals	1
		18
Third Semester		Credits
MR6651	Medical Record Science III	3
CT6630	Introduction to Personal Computers	3
MR6629	Medical Record Coding & Classification	3
BI5530	Fundamentals of Disease Process	3
	Liberal Arts Elective	3
PS1101	Introduction to Psychology <i>or</i>	
SO3321	Introduction to Sociology	3
		18
Fourth Semester		Credits
MR6655	Medical Record Science IV	3
MG6666	Principles of Management	3
	Elective	3
MR6622	Directed Practice II*	4
	Elective	3
		16

* Transportation to directed practice sites is the student's responsibility.
Students enrolled in Directed Practice must carry malpractice insurance.

Human Services

The associate in science degree program in Human Services is designed to give students a solid foundation in the human service principles, values, theories, and skills required of human service practitioner. The program prepares graduates to promote and respect the dignity of all individuals, to be sensitive to cultural diversity, and to recognize individual differences. The curriculum content includes knowledge of human services, treatment modalities, assessment, supportive counseling, advocacy skills, group dynamics, principles/techniques of behavior management, case management, confidentiality, and professional ethics. Students are placed in selected practicums whereby they have an educational experience under professional supervision that promotes personal and professional growth. Graduates of the program have the essential skills to work as human service practitioners with adults and children with emotional disability, mental illness, developmental disability, and substance abuse. They pursue careers in community multi-service agencies, hospitals, inpatient services, outpatient services, and schools. The program contains the National Community Support Skill Standards and is approved by the Council for Standards in Human Service Education. Sixty-one credit hours are required for graduation. **Complete college admission requirements:** two letters of reference; personal interview; health examination; liability insurance (enrolled in at time of college registration as part of tuition costs) and demonstration of a serious commitment to working in the human service delivery system to improve the care and services to individuals in need.

First Semester		Credits
EN4401	English Composition I	3
PS1101	Introduction to Psychology	3
MH2111	Introduction to Human Services	3
BI5510	Human Biology	3
	Elective	3
MH2133	Observation & Recording of Human Services Programs	1
		16
Second Semester		Credits
EN4402	English Composition II	3
	Elective	3
	Natural Science Elective	3/4
MH2155	Modalities of Treatment	3
MH2134	Human Services Practicum I	4
		16/17
Third Semester		Credits
PS1751	Abnormal Psychology	3
MH2143	Human Services Practicum II	4
MH2147	Group Dynamics	3
GV3310	American Government & Politics	3
		13
Fourth Semester		Credits
MH2166	Seminar in Human Services	3
MH2144	Human Services Practicum III	4
FA7012	Introduction to the Creative Experience	3
	Sociology Elective	3
MH2156	Behavior Mgt. Principles & Techniques	3
		16

Note: See Commonwealth Transfer Compact requirements in this catalog. All courses with an "MH" prefix are restricted to students enrolled in the Human Services, Community Support Human Service Practitioner or Alcohol/Drug Abuse Counseling programs. Other students may take MH prefix courses, depending upon class size, with written permission of the coordinator.

Legal Secretarial Certificate

The certificate program in Legal Secretarial will assist students to develop essential skills and specialized knowledge needed to operate in a legal environment. Students will learn law office procedures, computer technology, and records management. In addition, students will study general legal concepts and terminology. The program is suited for self-motivated individuals who enjoy working in a multi-task, traditional, professional environment. Some of the courses within this certificate program can be applied toward the Business Management, Office Technology, and Paralegal Associate Degree Programs. Twenty-seven credit hours are required.

First Semester		Credits
GV3300	Introduction to Law	3
TW6651	Computerized Keyboarding II**	3
CT6630	Introduction to Personal Computers	3
SL6682	Business Communication	3
SL6654	Law Office Procedures I*	3
		15
Second Semester		Credits
SL6655	Law Office Procedures II*	3
BU4430	Business Software Integration†	3
LW6651	Business Law I	3
CO4401	Cooperative Education	3
		12

* Pre-requisite: Passed the Keyboarding Assessment for entry into TW6651 Computerized Keyboarding II or completion of TW6650 Computerized Keyboarding I with a grade of C or better.

Corequisite: CT6630 Introduction to Personal Computers or equivalent. GV3300 Introduction to Law.

** Pre-requisites: TW6650 or equivalent with a grade of C or better, or equivalent keyboarding and formatting skills. **Note:** An entrance test is given prior to acceptance into this course for those who do not take the pre-requisite course.

*** Pre-requisite: SL6654 Law Office Procedures I

† Pre-requisite: CT6630 Introduction to Personal Computers

Liberal Arts

The associate in arts degree program in Liberal Arts is designed to foster the development of the well-rounded individual. It encourages students to acquire knowledge, skills and abilities to make sound judgments, to reach reasoned conclusions and to express themselves confidently and effectively. This program is designed for those who seek immediate transfer to a four year educational institution and for those wishing to enter the job market.

The associate in arts degree in Liberal Arts requires students to complete: forty-four credit hours of work in core courses and 18 credit hours in elective courses for a total of 62 credits.

Core Requirements: 44 Credits	Credits
Composition I & II	6
Behavioral Sciences*	6
Foreign Languages/Philosophy/Religion Creative Arts**	6
History/Government***	6
Literature†	6
Mathematics††	6
Natural Science†††	8

* All courses offered in Anthropology, Psychology and Sociology; i.e., with PS and SO prefixes.

** Art, Dance, Music, Photography, Theatre.

*** All courses with GV and HI prefixes.

† Any course offered by the Department of English which includes the word "literature" anywhere in the course title.

†† Any math (MA) course except the following: MA0020 Basic Mathematics, MA0030 Basic Algebra, MA5501 Intermediate Algebra and MA5613 Business Math.

††† Two science courses with laboratory requirements.

Electives: 18 credits (or more). Electives include any course offered by the departments of English; Foreign Languages; Philosophy & Religion; Creative Arts; History & Government (including GE prefix, Geography); Behavioral Sciences; Mathematics and Natural Sciences. Students may also take up to 3 credits in the Department of Sport & Leisure Studies and/or up to 6 credits in college level courses offered by any other department in the college. (Additional electives in other areas must be approved in advance by the Dean of Academic Affairs & the Liberal Arts chairpersons.)

Planning Your Liberal Arts Program: In order to help students focus their Liberal Arts studies more effectively and choose courses which meet their individual needs and interests, Northern Essex has developed a number of suggested approaches to the scheduling of courses in the Liberal Arts program. These include Degree Options and two Degree Concentrations. Students can design their own program of study with help from faculty advisors. All students who wish to transfer should consult the catalogs of four year institutions for specific program requirements.

Note: Eligible students may complete part of their core and elective requirements via a Northern Essex Study Abroad Program. Contact the director, Study Abroad Programs at (978) 556-3806.

Liberal Arts Degree Concentrations

Students matriculated in the Liberal Arts program may take up to 18 credits offered by any other department if they are identified as being enrolled in an approved Liberal Arts degree concentration. Unless otherwise noted, the core requirements of the Liberal Arts Degree must be met. The following Degree Concentrations are currently available.

Liberal Arts: Computer Science Degree
Concentration

The associate in arts degree concentration in Computer Science is offered by the Department of Computer and Information Science and the Liberal Arts divisions. This degree concentration provides study in liberal arts and computer science and is designed for those students who may wish to transfer to a four-year institution. This program is also designed to meet individual student needs and career goals in the broad fields encompassing computers and information processing. Sixty-four to sixty-nine credit hours of work are required for graduation.

First Semester		Credits
	Category I or II Elective	3/4
EN4401	English Composition I	3
	Math Elective*	4
HI9901	Western Civilization I	3
	Elective or	
	Computerized Keyboarding**	3
		16/17

Second Semester		Credits
CT6620	Programming I	4
EN4402	English Composition II	3
	Math Elective*	3/4
HI9902	Western Civilization II	3
	Literature Elective	3
		16/17

Third Semester		Credits
	Category II Elective	3/4
	Category III Elective	3/4
	Behavioral Science Elective	3
	Philosophy/Creative Arts/	
	Foreign Language Elective	3
	Natural Science Elective	4
		16/18

Fourth Semester		Credits
	Category II Elective	3/4
	Behavioral Science Elective	3
	Literature Elective	3
	Philosophy/Creative Arts/	
	Foreign Language Elective	3
	Natural Science Elective	4
		16/17

* Math chart for Computer Programs starting at the level of College Algebra & Trigonometry. See Liberal Arts Math requirement.

** Students must have a keyboarding skill of 25 words per minute with no more than 1 error per minute on unfamiliar material or TW6650 Computerized Keyboarding I must be taken in the first semester. Elective may not include any developmental courses such as Basic Math, Basic Algebra, Basic Reading or Basic Writing. Technical Writing EN4676 is strongly recommended as a Category III elective.

The following five courses must be taken from the Department of Computer & Information Sciences:

CT6620	Programming I
1	Course from Category I or II
2	Courses from Category II
1	Course from Category III

CATEGORY I:	
CT6630	Introduction to Personal Computers
CT6626	Introduction to Information Processing/BASIC
CT6682	Computer Applications in Engineering & Technology
CT6670	Introduction to CAD/CAM
CT7000	Introduction to PC/Macintosh

CATEGORY II	
(most of these courses require pre-requisites):	
CT6641	Operating Systems
CT6681	Advanced Data Base Management Software
CT6632	Personal Computer Applications

CATEGORY III:	
Upper level math course or Technical Writing or any 4 credit Computer Technology course.	

Liberal Arts: Physical Education/Recreation
Degree Concentration

The associate in arts degree concentration in Physical Education and Recreation is offered by the Department of Sport & Leisure Studies and the Liberal Arts divisions. The concentration is designed to meet individual needs and career goals in the broad fields of recreation and physical education. There is enough built-in flexibility within the concentration to allow students an opportunity to explore the various career alternatives within the whole range of leisure services. Students will also have an opportunity to transfer to leisure service programs at the baccalaureate level.

First Semester		Credits
EN4401	English Composition I	3
PS1101	Introduction to Psychology	3
PE2001	Introduction to Physical Education	3
	History & Government Elective	3
	Math Elective*	3

15

Second Semester		Credits
EN4402	English Composition II	3
SO3321	Introduction to Sociology	3
PE2020	Foundations of Health & Fitness	3
	History & Government Elective	3
	Math Elective**	3

15

Third Semester		Credits
PE2296	Aerobics in Theory & Practice	2
	Natural Science Elective	4
	Humanities Elective	3
	Literature Elective	3
	Category I or II Elective**	4

16

Fourth Semester		Credits
PE2012	First Aid & CPR	3
	Natural Science Elective	4
	Humanities Elective	3
	Literature Elective	3
	Category I or II Elective**	3

16

Category I Electives: PE1057 Ballet, PE1008 Canoeing, PE1038 Cross-Country Skiing, PE1044 Cycling, PE1011 Fly Fishing, PE1014 Golf, PE1063 Jazz, PE1042 Jogging, PE1018 Modern Dance, PE1050 Racquetball, PE1031 Weight Training, PE1041 Yoga, or any other appropriate skills course approved by the Department Chairperson.

Category II Electives: FA7094 Dance Composition, FA7091 Dance in Performance, CO4401 Cooperative Education.

* See Liberal Arts Math requirement.

** A total of 3 or 4 credits can be earned by a combination of category I electives and category II electives.

Liberal Arts Degree Options

Specific degree options within Board of Regents approved degree programs will recommend or require a minimum of either six courses or twenty credits as defined within the college catalog and will be included on the college transcript. These options are carefully reviewed for degree applicability and have been approved by the College. Students should meet with their advisors for clarification of degree requirements and application of their transfer credits and/or work experience towards program requirements.

Liberal Arts: Creative Arts Option

The associate in arts degree option in Creative Arts allows students to explore their interest in dance, music, theatre or art. Students may select introductory and specialized courses in each of these areas. Drama, dance and musical productions are presented each year, offering an excellent opportunity for practical experience.

First Semester		Credits
EN4401	English Composition I	3
HI9901	Western Civilization I	3
FA7020	Introduction to Creative Arts	3
	Art, Dance, Music, Theatre Elective*	3
	Math Requirement** or	
	Free Elective***	3
		15
Second Semester		Credits
EN4402	English Composition II	3
HI9902	Western Civilization II	3
HU4000	Introduction to Humanities	3
	Art, Dance, Music, Theatre Elective*	3
	Math Requirement** or	
	Free Elective***	3
		15
Third Semester		Credits
	Natural Science Elective	4
EN8861	Western Literature Before 1600	3
	Behavioral Science Elective	3
	Art, Dance, Music, Theatre Elective*	3
	Math Requirement** or	
	Free Elective***	3
		16
Fourth Semester		Credits
	Natural Science Elective	4
EN8862	Western Literature Since 1600	3
SO3324	Cultural Anthropology	3
	Art, Dance, Music, Theatre Elective*	3
	Math Requirement** or	
	Free Elective***	3
		16

* Students must take at least 3 credits in each of the following areas: Dance: Dance Composition; Dance in Performance; Modern Dance, I, II, III & IV; Ballet I & II; Jazz I & II. Theatre: Intro. to Theatre, Acting, Mime, History of Theatre. Visual Arts: Introduction to Art, Painting, Drawing. Music: Intro. to Music, History of Jazz, Music Reading.

** See Liberal Arts Math requirement.

*** Free Electives: Includes any course offered by the departments of English, Foreign Languages/Philosophy/Religion, Creative Arts, History & Government, Behavioral Sciences, Mathematics, Natural Sciences & Business. Students may also take up to 3 credits in the Department of Sport & Leisure Studies and/or up to 6 credits in courses offered by any other department of the college.

Liberal Arts: Cross-Cultural Option

The associate in arts degree option in Cross-Cultural is designed as a suggested curriculum for students who wish to include an intercultural perspective in their curriculum at Northern Essex. This option takes into account the requirements for an associate in arts degree in liberal arts. Sixty-two to sixty-four credits are required for graduation.

GROUP I		Credits
EN4401	English Composition I	3
SO3321	Introduction to Sociology with Cross Cultural Perspective	3
	Foreign Language or	
HU4000	Introduction to Humanities	3
GE9511	Introduction to Geography	3
	Mathematics Elective****	3/4
		15/16
GROUP II		Credits
EN4402	English Composition II	3
SO3324	Cultural Anthropology	3
HI9900	Contemporary World or	3
HU4000	Introduction to Humanities	3
	Foreign Language or	
HU4000	Introduction to Humanities	3
	Mathematics Elective****	3/4
		15/16
GROUP III		Credits
SO3333	Contemporary Social Problems	3
	Natural Science	4
	Literature Elective***	3
HI9955	Minority Groups in America	3
GV3312	Introduction to Political Science	3
		16
GROUP IV		Credits
	Natural Science	4
	Literature Elective***	3
	Free Elective	3
	Philosophy/Religion Elective**	3
	History Elective*	3
		16

* Modern China & Japan; Western Civilization I; Western Civilization II; Politics & Society in Eastern Europe; Twentieth Century Russia; American Government & Politics; American Foreign Policy; and Recent U.S. History.

** World Religions

*** Western Literature; British Literature; Women's Lives; Women in Literature & Life.

**** See Liberal Arts Math requirement.

Liberal Arts: Dance Option

The associate in arts degree option in Dance allows students to experience the feeling, enthusiasm, and spirit of dance through class and performance situations. Students will develop ease of movement, coordination and endurance as they learn the technical skills that the program provides. You will also learn the choreographic skills which enable you to express your creative potential and to learn to direct and manipulate movement in a solo or group setting. Sixty-three credits are required for graduation.

First Semester		Credits
EN4401	English Composition I	3
HI9901	Western Civilization I	3
	Math Requirement*	3
FA7094	Dance Composition	3
PE1070	Ballet I	2
PE1018	Modern Dance	1
		15

Second Semester		Credits
EN4402	English Composition II	3
HI9902	Western Civilization II	3
	Math Requirement*	3
FA7091	Dance in Performance	3
PE1063	Jazz I**	1
PE1064	Jazz II**	1
PE1071	Ballet II	2
		16

Third Semester		Credits
EN8861	Western Literature I	3
SO3324	Cultural Anthropology	3
	Natural Science***	4
FA7020	Introduction to Creative Arts or	
FA7090	Dance Repertory	3
	Liberal Arts Elective	3
		16

Fourth Semester		Credits
EN8862	Western Literature II	3
	Behavioral Science Elective	3
	Natural Science***	4
FA7020	Introduction to Creative Arts or	
FA7090	Dance Repertory	3
	Liberal Arts Elective	3
		16

Students must take at least 15 credits in dance: Dance Composition; Dance in Performance; Pedagogy; Repertory; Modern Dance I, II, III, IV; Ballet I, II; Jazz I, II. Directed Studies courses are available in Dance History & Ballet in Performance.

* See Liberal Arts Math requirement.
** Modern Dance II or Directed Studies can be substituted with permission of instructor.
*** Recommended: Anatomy & Physiology I & II.

Still Point: High point of the Dance Program is the annual spring dance performance, Still Point. This production combines many areas of dance: modern, jazz, ballet, African.

Dance Club: The Dance Club exists for the purpose of providing physical and creative expression and an awareness of the joy of movement. It encourages participation by faculty and alumni as well as students. Dance Club members also participate in Still Point. The Still Point Dancers, the dance company of the college, are part of the Dance Club. They are a touring company and perform in schools and colleges and participate in various community and college activities.

Liberal Arts: History Option

The associate in arts degree option in History offers guidance in course selection to students interested in pursuing a bachelor's degree in History. Although this sequence takes into account pre-requisites in the History departments in many New England colleges, it is only a suggested course sequence. Students interested in a history major should consult with an advisor concerning appropriate history electives.

GROUP I		Credits
EN4401	English Composition I	3
	Math Elective*	3
	Behavioral Science Elective	3
	Foreign Language Elective	3
HI9913	U.S. History I or	
HI9901	Western Civilization I or	
HI9904	World Civilization I	3
		15
GROUP II		Credits
EN4402	English Composition II	3
	Math Elective*	3
	Behavioral Science Elective	3
	Foreign Language Elective	3
HI9914	U.S. History II or	
HI9902	Western Civilization II or	
HI9905	World Civilization II	3
		15

GROUP III Credits	
	Literature Elective
	Science Elective
EC3322	Micro Economics
GE9511	Introduction to Geography
	History/Government Elective
16	

GROUP IV Credits	
	Literature Elective
	Natural Science Elective
EC3323	Macro Economics
	History/Government Electives
16	

* See Liberal Arts Math requirement.

History/Government Electives	
HI9900	The Contemporary World
HI9916	Recent U.S. History
HI9917	The Family in History
HI9953	Modern China & Japan
HI9955	Minority Groups in America
HI9956	American Foreign Policy
HI9958	History of the Soviet Union
HI9959	History of Latin America
HI9960	The Modern Middle East
HI9962	Women's History
GV3310	American Government & Politics, and
GV3320	Women & the Law

Note: Students are urged to consult with transfer institutions prior to selecting electives. As well, students should complete all of the courses in each group, prior to proceeding to the next group, of courses.

Liberal Arts: International Relations Option

The associate in arts degree option in International Relations is designed for students who wish to include an international perspective in their curriculum at Northern Essex but are unable to study overseas. This option takes into account the requirements for an Associate in Arts Degree in Liberal Arts.

GROUP I		Credits
EN4401	English Composition I	3
SO3321	Introduction to Sociology with Cross Cultural Perspective Foreign Language	3
GE9511	Introduction to Geography	3
	Mathematics Elective*	3/4
		15/16
GROUP II		Credits
EN4402	English Composition II	3
SO3324	Cultural Anthropology	3
HI9900	Contemporary World Foreign Language	3
	Mathematics Elective*	3/4
		15/16
GROUP III		Credits
EC3322	Micro Economics	3
	Natural Science	4
	Literature Elective**	3
GV3312	Introduction to Political Science	3
	History Elective†	3
		16
GROUP IV		Credits
	Natural Science	4
	Literature Elective**	3
	Free Elective††	3
	Philosophy/Religion Elective***	3
	History Elective†	3
		16

* See Liberal Arts Math requirement.

** Western Literature, British Literature, Women's Lives, Women in Literature & Life.

*** World Religions

† Western Civilization I, Western Civilization II, World Civilization I & II, American Foreign Policy, History of Latin America, Twentieth Century Russia, Politics & Society in Eastern Europe, Modern China & , Japan, Modern Middle East.

†† Macro Economics or International Business recommended.

Note: Students are urged to consult with transfer institutions prior to selecting electives. As well, students should complete all of the courses in each group, prior to proceeding to the next group, of courses.

Liberal Arts:
Journalism/Broadcasting Option

As a student in the associate in arts degree option in Journalism/Broadcasting at Northern Essex, you will learn what it's like to work in the communications field, a choice which can ultimately lead to career opportunities in newspapers, magazine, publishing, television or radio. At Northern Essex, we provide you with the basic courses and practical experience which will prepare you for a career in print or broadcast journalism. A full two-year sequence of courses in print journalism guarantees students the most comprehensive introduction to print journalism available at any two-year college in Massachusetts. Sixty-two credits are required for graduation.

First Semester		Credits
EN4401	English Composition I	3
EN5101	Journalism I	3
EN5334	TV Production I	3
GV3310	American Government & Politics	3
FA7121	Macintosh Design	3
		15
Second Semester		Credits
EN5102	Journalism II	3
EN5333	Broadcast Reporting	3
PS1101	Introduction to Psychology	3
	History/Government Elective	3
	Fine Arts Elective*	3
		15
Third Semester		Credits
EN4402	English Composition II	3
	Natural Science	4
	Literature Elective	3
	Math Elective**	3
EN5104	Copy Editing or Elective	3
		16
Fourth Semester		Credits
SO3321	Introduction to Sociology or	3
SO3324	Cultural Anthropology	
	Natural Science	4
	Literature Elective	3
	Math Elective**	3
EN5103	Journalism Practicum or	
	Journalism Elective	3
		16

* FA7051 Introductory Photography and FA7122 Publication Design are recommended for Fine Arts electives.

** See Liberal Arts Math requirement.

Liberal Arts: Legal Studies Option

The associate in arts degree option in Legal Studies provides valuable understanding of the impact of legal issues in a variety of fields in contemporary society. Since law is permeating increasingly various areas of everyday life, a focus on legal issues provides a much needed component to a well-rounded education and a good preparation for a four year liberal arts transfer program. A total of sixty-three to sixty-five credit hours are required.

GROUP I Credits		
EN4401	English Composition I	3
	Math Elective*	3/4
SO3324	Cultural Anthropology	3
GV3300	Introduction to Law	3
	History Elective	3
		15/16
GROUP II Credits		
EN4402	English Composition II	3
GV3312	Introduction to Political Science	3
GV3301	U.S. Constitutional Law	3
	Math Elective*	3/4
	History Elective	3
		15/16
GROUP III Credits		
GV3315	Civil Rights & Liberties	3
	Literature Elective	3
LW6670	Legal Research & Writing	4
	Science Elective	4
	Foreign Language or Philosophy***	3
		17
GROUP IV Credits		
	Behavioral Science Elective**	3
	Cooperative Education (in Legal Area)	3
	Literature Elective	3
	Foreign Language or Philosophy	3
	Science Elective	4
		16

* See Liberal Arts Math requirement.

** Choose one of the following:

SO3333	Contemporary Social Problems
SO3353	Introduction to Criminology
SO3355	Introduction to Social Welfare
SO3343	Juvenile Delinquency (Pre-requisite SO3321)
SO3360	Race & Ethnic Relations
PS1351	Social Psychology (Pre-requisite PS1101 or SO3321)
SO3358	Women and Society

*** Spanish I or II highly recommended.

Students are urged to develop basic computer literacy skills in preparation for transfer to a four year institution.

Liberal Arts: Music Option

The associate in arts degree option in Music offers guidance in course selection to students interested in preparing for careers in music, either those seeking professional work or those seeking transfer to four-year colleges. Students are prepared to transfer to college curriculums and/or pursue professional work in the jazz, pop and classical areas of music. Students enrolled in the music option should plan on taking at least 18 credits, but no more than 24 credits, in music courses. Sixty-two credit hours are required for graduation.

First Semester		Credits
MU7061	Music Reading & Theory I*	3
MU7051	Introduction to Music*	3
EN4401	English Composition I	3
MA5520	Liberal Arts Math I	3
PS1101	Introduction to Psychology	3
		15
Second Semester		Credits
MU7062	Music Reading & Theory II*	3
MU7052	Survey of Music: Ancient to Modern Times*	3
EN4402	English Composition II	3
MA5525	Liberal Arts Math II	3
	Behavioral Science Elective	3
		15
Third Semester		Credits
MU7131	Music Technology: Sound*	3
	Music Elective*	3
HI9901	Western Civilization I	3
	Literature Elective	3
	Natural Science	4
		16
Fourth Semester		Credits
MU7132	Music Technology: Composition*	3
	Music Elective*	3
HI9902	Western Civilization II	3
	Literature Elective	3
	Natural Science	4
		16

Recommended Music Electives:

MU7110	Chorus I
MU7111	Chorus II
MU7097	Performance Ensemble I
MU7098	Performance Ensemble II
MU7080	Piano
MU7100	Harmony Directed Studies in Music, such as Ear Training (CAI)
	Computer Music Notation (CAI)

* These courses are required for completion of the Music Option of the Liberal Arts Program. Other courses identified are strongly recommended and may only be changed after consultation with the Program Advisor and Assistant Dean of the Humanities Division. Distribution requirements for Liberal Arts Program apply.

Liberal Arts: Philosophy Option

The associate in arts degree option in Philosophy provides a base for a variety of personal goals. Philosophy is a handle on the door of opportunity, sharpening our ability to think clearly, evaluate ideas, assess options and to make reasoned decisions. Whether one majors in philosophy or in an other field of liberal arts, the philosophy option provides a foundation for branching off in many directions. Philosophy students move into fields of law, public service, religion, education, journalism, the arts, corporate management and business—using to good advantage their exposure to wide-ranging ideas and viewpoints and their ability to understand and to reason. Sixty-two credits are required for graduation.

First Semester		Credits
EN4401	English Composition I	3
HI9901	Western Civilization I*	3
PH1101	Introduction to Philosophy*	3
	Math Elective**	3
PS1101	Introduction to Psychology	3
		15
Second Semester		Credits
EN4402	English Composition II	3
HI9902	Western Civilization II*	3
PH1102	Basic Issues in Philosophy*	3
	Math Elective**	3
PH1150	Practical Logic*	3
		15
Third Semester		Credits
	Science Elective	4
	Literature Elective	3
RE1101	World Religions*	3
PH1141	Ethics*	3
	Elective	3
		16
Fourth Semester		Credits
	Science Elective	4
	Literature Elective	3
	Behavioral Science Elective	3
	Elective	3
	Elective	3
		15

* Required courses in option.

** See Liberal Arts Math requirement.

Recommended Electives: PH1151 Logic, PH0001 Early and Medieval Philosophy, PH0002 Modern Philosophy, PH0201 Bioethics may be taken in the third and fourth semesters.

Liberal Arts: Political Science Option

The associate in arts degree option in Political Science offers guidance in course selection to students interested in pursuing a bachelor's degree in political science, government, or public administration. Although this sequence takes into account pre-requisites in these departments in many New England colleges, it is only a suggested course sequence. Students interested in further study in these areas should consult with an advisor concerning appropriate electives.

GROUP I Credits		
EN4401	English Composition I	3
	Math Elective*	3
	Behavioral Science Elective	3
GV3312	Introduction to Political Science	3
	Foreign Language Elective	3
		15
GROUP II Credits		
EN4402	English Composition II	3
MA5673	Quantitative Methods	3
	Behavioral Science Elective	3
GV3310	American Government & Politics	3
	Foreign Language Elective	3
		15
GROUP III Credits		
	Literature Elective	3
	Science Elective	4
EC3322	Micro Economics	3
GE9511	Introduction to Geography	3
	Government/History Elective	3
		16
GROUP IV Credits		
	Literature Elective	3
	Science Elective	4
EC3323	Macro Economics	3
	Government/History Electives	6
		16

* See Liberal Arts Math requirement.

Government/History Electives: U.S. History I and II are strongly recommended as well as Introduction to Law, Constitutional Law, Civil Rights, Minority Groups in America, and Recent U.S. History.

Note: Students are urged to consult with transfer institutions prior to selecting electives. As well, students should complete all of the courses in each group, prior to proceeding to the next group of courses.

Liberal Arts: Psychology Transfer Option

The purpose of the associate in arts degree option in psychology transfer is to prepare those students who are interested in pursuing career opportunities in the field of psychology and are intending to transfer to a four-year institution. The 62 credits of course work outlined below provide students with the basic liberal arts courses necessary for transfer. In addition, it exposes students to introductory level psychology courses, as well as the other related behavioral sciences that provide students with a strong academic background for further study at the Bachelor's level and beyond.

Credit Requirements		
EN4401/EN4402	English Composition I & II	6
	Literature*	6
BI5515/BI5525	Introductory Biology I & II	8
HI9904/HI9905	World Civilization I & II** <i>or</i>	
HI9901/HI9902	Western Civilization I & II **	6
PH1101	Introduction to Philosophy	3
	Philosophy/Foreign Language/ Religion/Fine Arts Elective ***	3
	Math Elective****	6
PS1101	Introduction to Psychology	3
SO3321	Introduction to Sociology	3
SO3324	Cultural Anthropology	3
PS1751	Abnormal Psychology <i>or</i>	
PS1154	Psychology of Personality	3
	Psychology Elective from	
	Developmental Area†	3
	Sociology Elective††	3
	Electives†††	6

* Sequential literature courses highly recommended.

** Inquire at transfer institution to determine appropriate selection.

*** Foreign language highly recommended.

**** Any math course at or above the level of College Algebra and Trigonometry (MA56221 highly recommended). See Math Chart.

† PS1151 Child Psychology; PS1152 Adolescent Psychology; PS1210 Developmental Psychology I; PS1211 Developmental Psychology II.

†† Any course beginning with SO prefix.

††† Recommended courses include CT6630 Introduction to Personal Computers and/or foreign language.

Liberal Arts: Science Options

The four options in associate in arts degree Science are designed as a suggested curricula for students who decide early they would like to earn a bachelor's degree in science. Although these sequences have taken into account pre-requisites in science departments at New England universities, they are only suggested course sequences. Students are advised to consult with the Admissions Office/Science Department at the school to which they plan to transfer for their preferred sequence of course electives. The math, chemistry and physics course you take will depend on your high school science background. For some students, it is better to start with a more basic course such as Introductory Chemistry before General Chemistry, College Algebra and Trigonometry before Calculus I, etc. Such introductory courses may not transfer towards a science degree at many colleges/universities. With the advice of a faculty advisor, and even with a decision in the student's second year to become a science major, other course sequences (with some concentration in the sciences) may serve the same purpose for the Liberal Arts transfer students. Students interested in science should contact the Chairperson of the Department of Natural Sciences for additional information.

Liberal Arts: Biology Option

First Semester		Credits
EN4401	English Composition I	3
MA5675	Calculus I for Business/Social/Life Sciences or	
MA5690	Calculus I	3/4
BI5515	Introductory Biology I	4
CH5501	General Chemistry I	4
	Behavioral Science Elective	3

17/18

Second Semester		Credits
EN4402	English Composition II	3
MA5676	Calculus II for Business/Social/Life Sciences or	
MA5692	Calculus II	3/4
BI5525	Introductory Biology II or	
	Biology Elective*	4
CH5502	General Chemistry II	4
	History/Government Elective	3

17/18

Third Semester		Credits
	Physics Elective**	4
BI5553	Microbiology	4
	Literature Elective	3
	Language Elective	3
	Behavioral Science Elective	3

17

Fourth Semester		Credits
	Physics Elective**	4
	Biology Elective* or	
	Computer Science Elective***	3/4
	Literature Elective	3
	Language Elective	3
	History/Government Elective	3

16/17

* BI6605 General Zoology; BI6600 General Botany; SC0000 Research Topics in Science.

** PI5621/PI5622 Applied Physics I & II; PI5623/PI5624 Engineering Physics I & II.

*** CT6630 Introduction to Personal Computers.

Liberal Arts: Chemistry Option

First Semester		Credits
EN4401	English Composition I	3
MA5690	Calculus I	4
CH5501	General Chemistry I	4
	Science Elective	4
	Behavioral Science Elective	3

18

Second Semester		Credits
EN4402	English Composition II	3
MA5692	Calculus II	4
CH5502	General Chemistry II	4
PI5623	Engineering Physics I	4
	History/Government Elective	3

18

Third Semester		Credits
MA5693	Calculus III	4
PI5624	Engineering Physics II	4
	Literature Elective	3
	Behavioral Science Elective	3
	Language Elective	3

17

Fourth Semester		Credits
MA5685	Differential Equations	4
	Science Elective	4
	Literature Elective	3
	History/Government Elective	3
	Language Elective	3

17

Liberal Arts: Earth Science Option

First Semester		Credits
EN4401	English Composition I	3
MA5690	Calculus I	4
CH5501	General Chemistry I	4
	Science Elective	4
	Behavioral Science Elective	3

18

Second Semester		Credits
EN4402	English Composition II	3
MA5692	Calculus II	4
CH5502	General Chemistry II	4
PI5623	Engineering Physics I	4
	History/Government Elective	3

18

Third Semester		Credits
ES5502	Physical Geology	4
MA5693	Calculus III	4
PI5624	Engineering Physics II	4
	Literature Elective	3
	Language/Philosophy/Religion/Creative Arts Elective	

18

Fourth Semester		Credits
ES5501	Meteorology	4
	Literature Elective	3
	Behavioral Science Elective	3
	History/Government Elective	3
	Language/Philosophy/Religion/Creative Arts Elective	3

16

Liberal Arts: Physics Option

First Semester

EN4401	English Composition I
MA5690	Calculus I
CH5501	General Chemistry I
	Science Elective
	Behavioral Science Elective

Second Semester

EN4402	English Composition II
MA5692	Calculus II
CH5502	General Chemistry II
PI5623	Engineering Physics I
	History/Government Elective

Third Semester

MA5693	Calculus III
PI5624	Engineering Physics II
	Literature Elective
	Behavioral Science Elective
	Language Elective

Fourth Semester

MA5685	Differential Equations
PI5624	Engineering Physics III
	Literature Elective
	History/Government Elective
	Language Elective

Credits

3
4
4
4
3

18

Credits

3
4
4
4
3

18

Credits

4
4
3
3
3

17

Credits

4
4
3
3
3

17

Liberal Arts: Social Work Transfer Option

The associate in arts degree option in Social Work is designed for students who wish to begin preparation for a position in public and private social work agencies and/or intend to transfer into a four-year degree program in social work. The sixty-two credits of course work outlined below provide a solid introduction to liberal arts courses and to the purposes, techniques and problems associated with the field of social work.

Credit Requirements

EN4401/EN4402		
	English Composition I & II	6
	Literature*	6
BI5515/BI5525		
	Biology I & II	8
HI9904/HI9905		
	World Civilization I & II** or	
HI9901/HI9902		
	Western Civilization I & II**	6
PH1101	Introduction to Philosophy	3
	Philosophy, Foreign Language,	
	Religion, Fine Arts ***	3
	Math †	6
PS1101	Introduction to Psychology	3
SO3321	Introduction to Sociology	3
SO3355	Introduction to Social Welfare	3
PS1210	Developmental Psychology I or	
PS1211	Developmental Psychology II	3
SO3324	Cultural Anthropology	3
	Social Science Electives††	6
	Free Elective†††	3

* Sequential literature courses highly recommended. (any courses offered by the English Department which include the word "literature" in the title)

** Inquire at transfer institution to determine appropriate selection.

*** Foreign language highly recommended.

† Math recommended courses are Statistics (MA5506) and any other math course at or above the level of College Algebra & Trigonometry (MA5621). See Math Chart. (Note which math courses do not meet core requirements for Liberal Arts students.)

†† Any PS, SO, HI, GV, or GE prefix course.

††† CO4401 Cooperative Education course highly recommended.

Liberal Arts: Teacher Preparation Option

The associate in arts degree option in Teacher Preparation is a transfer program designed to provide a strong foundation in the arts and sciences through a required distribution of liberal arts courses; an opportunity to begin course work in a major; and an introduction to the teaching profession (pre-professional preparation in education). The program objectives are threefold:

- (1) to help students cultivate knowledge, skills and attitudes essential for a contemporary global society;
- (2) to prepare for successful transfer to four-year institutions; and
- (3) to begin preparing those interested in teaching as a career field.

1. PROGRAM REQUIREMENTS

- a. Completion of a non-Western civilization course;
- b. demonstrated computer competency at the CT6630 Introduction to Personal Computers course level;
- c. attendance at a number of scheduled program activities, including orientation, club activities, transfer meetings, as well as special programs and events;
- d. completion of 64 credits of course work.

2. CREDIT REQUIREMENTS (SEE NOTES BELOW): 64

a. Liberal Arts Core	44
English Composition I & II	6
Literature	6
Foreign Language*/Philosophy/Religion/Creative Arts	6
Mathematics	6
Sciences	8
Behavioral Sciences	6
History & Government	6
b. Teacher Preparation Option Credits	20
Introduction to Teaching	4
Issues and Trends in Education	3
Issues and Trends in Education: Practicum	1
Liberal Arts Electives**	9
Free Elective	3
Total Credits	64

Note: Advising is the central component throughout this program. Students will only be allowed to register for Teacher Preparation Option Credits if the appropriate advisor's signature is obtained.

** Highly recommended for students who do not have a competency in a second language.*

*** In selecting the elective courses, students will be guided by their anticipated choice of discipline major, the level of teacher certification to be sought and the aforementioned program requirements.*

For all of the above courses, students must confer/consult: Department of Education certification requirements, Commonwealth of Massachusetts Transfer Compact, specific transfer institutions and the NECC teacher preparation requirements.

Graduation Recommendation: Since a number of transfer institutions require a QPA greater than 2.50, we recommend that our students strive for an overall minimum QPA of 2.75.

Liberal Arts: Theatre Option

The associate in arts degree option in Theatre offers several introductory courses for academic credit over a two-year period. Theatre study and experience is appropriate for those interested professionally as well as students seeking elective credits. Because of the size of the classes and the various curricular and extracurricular theatre activities, the student has an excellent opportunity for on-stage or backstage experience. Sixty-two credits are required for graduation.

First Semester		Credits
EN4401	English Composition I	3
HI9901	Western Civilization I	3
TH7765	Introduction to Theatre or Theatre Elective*	3
TH7769	Acting	3
	Free Elective	3
		15
Second Semester		Credits
EN4402	English Composition II	3
HI9902	Western Civilization II	3
HU4000	Introduction to Humanities	3
TH7768	Scene Study or Theatre Elective*	3
EN8011	Public Speaking	3
		15
Third Semester		Credits
	Natural Science	4
	Literature Elective	3
	Behavioral Science Elective	3
	Theatre Elective*	3
	Math Requirement**	3
		16
Fourth Semester		Credits
	Natural Science	4
	Literature Elective	3
	Behavioral Science Elective	3
	Theatre Elective*	3
	Math Requirement**	3
		16

* Theatre courses are offered on an alternating basis over a period of time. Theatre courses are: TH7775 *Fundamentals of Play Production: Directing*, TH7795 *History of Theatre*, TH7799 *Rehearsal & Performance*, TH7760 *Stagecraft*.

** See Liberal Arts Math requirement.

Liberal Arts: Women's Studies Option

The associate in arts degree option in Women's Studies offers an opportunity to understand many familiar subjects from the perspective of women. The Women's Studies option prepares you with all the traditional skills of a liberal arts education: practice in critical reading and thinking; practice in clear, well-organized writing; and background in a number of academic disciplines. Women's Studies students may transfer to four-year liberal arts degree programs in any liberal arts major. Many four-year colleges also offer degrees in women's studies. Students who enter the work world after their associate degree will find themselves well prepared to transfer their skills in writing, research and thinking to a variety of jobs.

Part-time Option: Students who prefer to take fewer courses in a semester may study on a part-time basis and complete the program in a longer period of time.

Curriculum: The Women's Studies Option of the Liberal Arts degree program includes the following seven courses, distributed among three departments in two divisions (Humanities and Social Sciences). Complete descriptions of these courses are in the college catalog.

EN8882	Literature: Women's Lives: Recorded & Imagined
EN8883	Women in Literature & Life
EN8884	Literature: 20th Century Women in Film
GV3320	Women & the Law
HI9917	The Family in History
HI9962	Women's History: Giving the Majority Its Past
SO3359	Women & Society

Not all of these courses will be offered every semester. Some may be offered in alternate years. Other new or experimental courses, appropriate to the option but not appearing in the catalog, may be offered. Students should consult their advisors about these special topics each semester. Cooperative education courses, with approved placements and approval of the women's studies option coordinator, may also be used to fulfill the option.

Each of the women's studies courses fulfills a requirement within the liberal arts degree.

Requirement in History/Government	6 Credits
<i>Choose among:</i>	
GV3320	Women & the Law
HI9917	The Family in History
HI9962	Women's History: Giving the Majority Its Past

Requirement in Literature	6 Credits
<i>Choose among:</i>	
EN8882	Literature: Women's Lives—Recorded & Imagined
EN8883	Women in Literature & Life
EN8884	Literature: 20th Century Women in Film

Requirement in Behavioral Science	6 Credits
<i>Partially fulfilled by:</i>	
SO3359	Women & Society

Any of these courses may also be used to complete the 18 credits of liberal arts electives in the liberal arts degree program.

Completion of any six of these courses, or any five and one approved special topics course, will constitute the women's studies option.

Liberal Arts: Writing Option

The associate in arts degree option in Writing is designed to give students a solid foundation in writing. This option emphasizes building on existing skills, developing individual style, and exploring career applications of writing. It is an appropriate preparation for transfer to B.A. programs in English, writing, communications and other liberal arts majors; it may also prepare students for entry level jobs requiring excellent writing skills. Students not planning to transfer are urged to consider co-op as an elective to provide field experience in their chosen writing markets. Sixty-two credit hours are required for graduation.

Admission Conditions: Students entering the writing option should have sufficient typing or word processing skills to produce a printed essay. Those who are unable to do so should plan to take an appropriate keyboarding, word processing or personal computer course or to work independently in the computer labs on a word processing program. There is no pre-requisite level of skill, but all courses in the option will require printed papers.

Curriculum: The Writing Option of the LA Degree requires the Liberal Arts Core Requirements in the following areas:

	Credits
EN4401/EN4402	
English Composition I & II	6
Mathematics†	6
Laboratory Sciences†	8

†(See requirements under LA Degree)

The following 3 required courses are the heart of the Writing Option:

EN4403	Advanced Composition	3
EN4405	Creative Writing	3
EN8011	Public Speaking	3

***LA Requirement in Literature** 6
Women's Literature, ethnic/minority literature or Non-Western literature are recommended.

***LA Requirement in History/Government** 6
Courses with international or multi-cultural perspective are recommended.

***LA Requirement in Behavioral Science** 6
Courses with international or multi-cultural perspective are recommended.

*One course in any one of these areas must be multicultural or international in perspective, or must involve women's, ethnic, minority or non-Western studies.

LA Requirement in Foreign Language/Philosophy/Religion/Creative Arts 6

The following courses are strongly recommended to fulfill this requirement; they are chosen to emphasize variety in means of communication:

FA7020	Introduction to Creative Arts
FA7024	Dance Composition
MU7110	Chorus I
TH7796	Acting
TH7785	Mime
TH7799	Rehearsal & Performance
	Two semesters of a foreign language

Electives 9

In addition to liberal arts requirements, the following courses are recommended as elective credits:

EN5101	Journalism I
EN5333	Broadcast Reporting
EN4676	Technical Writing
EN8020	Interpersonal Communication
LN1001	Introduction to Language
CO4401	Cooperative Education I
	A literature elective

Note: Writing courses offered as Special Topics or newly added to the permanent curriculum may also be accepted as electives for this degree option with the consent of the adviser. Not all of these courses will be offered every semester. Some may be offered in alternate years.

Medical Assistant Certificate

The certificate program in Medical Assistant prepares persons to work in a variety of settings. The medical assistant is a professional, multi-skilled person dedicated to assisting in all aspects of medical practice under the supervision of a physician. The medical assistant assists with patient care management, executes administrative and clinical procedures, and often performs managerial and supervisory functions. Competency in the field also requires that a medical assistant be able to communicate effectively, adhere to ethical and legal standards of medical practice, recognize and respond to emergencies, and demonstrate professional characteristics. The medical assistant program requires that all students be C.P.R. certified (Basic Life Support, Form "C") prior to beginning the practicum in the spring semester. This may be accomplished by: participating in C.P.R. instruction offered by the American Heart Association, the American Red Cross or local hospitals. Twenty-nine credit hours of work are required for the certificate. Prior to graduation, students must participate in, pass and produce a certifying card from a standard first aid course sanctioned by the American Red Cross. Students must earn a C or better in all MS prefix courses to graduate. The Medical Assistant program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), on recommendation of the Committee on Accreditation for Medical Assistant Education.

First Semester		Credits
PS1101	Introduction to Psychology	3
SC5503	Integrated Science I	3
MS1015	Fundamentals of Medical Assisting: Administrative	5
MS1002	Fundamentals of Medical Assisting I: Clinical	2
HS1010	Medical Terminology I	1
MS1005	Medical Transcription for Medical Assistants*	2
		16
Second Semester		Credits
SC5504	Integrated Science II	3
MS2015	Seminar for Medical Assistants	1
MS2002	Fundamentals of Medical Assisting II: Clinical	2
MS2010	Basic Laboratory Procedures for Medical Assisting	2
MS2012	Medical Assisting Practicum	4
HS1011	Medical Terminology II	1
		13

* Keyboarding competency is a pre-requisite for this course. See course description.

Student Liability Insurance: All medical assistant students are required to carry student liability insurance. The premium is to be paid in the fall of each year.

Health: Medical Assistant students are required to complete a health evaluation prior to acceptance into the program.

A personal interview with the program coordinator is required prior to acceptance into the program.

Medical Billing Certificate

The certificate program in Medical Billing is designed for persons interested in working in a medical billing setting of a clinic, medical insurance office, or billing department of other health facilities. Through the course of study, students will learn terminology, record and forms management; medical insurance requirements; and billing procedures needed to effectively manage patient accounts. Upon successful completion, students will be qualified for positions in medical billing. Students may also transfer some courses in this certificate program toward the Health Information Technology associate degree program. Twenty-seven credit hours are required for the certificate.

First Semester		Credits
AC6600	Basic Business & Bookkeeping	3
SL6673	Word Processing I*	3
MR6605	Introduction to Medical Language I	3
SC5503	Integrated Science I	3
		12
Second Semester		Credits
Part A		
MR6606	Introduction to Medical Language II	3
SC5504	Integrated Science II	3
MR7701	Coding & Classification for Medical Billing**	3
MR7702	Medical Billing Administration***	3
Part B		
MR7703	Medical Billing Internship†	3
		15

* Pre-requisite: Skill in the Operation of a Typewriter and Formatting

** Co-requisite: SC5504 Integrated Science II

*** Co-requisite: MR7701 Coding and Classification For Medical Billing and SC5504 Integrated Science II

† Pre-requisites: MR7701 Coding & Classification for Medical Billing and MR7702 Medical Billing Administration. Medical Billing Internship will begin in the semester following the completion of the pre-requisite courses listed above.

Medical Equipment Maintenance & Repair Technology Certificate†

The one-year certificate program in Medical Equipment maintenance and repair technology provides students with theoretical and practical hands-on training in the basic technical skills needed for entry-level jobs as technicians in the calibration and servicing areas of medical electronics and personal computers. Employment opportunities are in companies manufacturing medical electronics equipment, in area hospitals and in service companies that calibrate and repair medical electronics equipment. Twenty-nine credit hours of work are required for the certificate. **Program Pre-requisite:** High School Diploma or equivalent (GED) and one year of high school algebra.

First Semester		Credits
Math Elective*		3/4
ET6010	Introduction to Medical Electronics & Clinical Safety	1
CT6601	Fundamentals of Digital Logic	3
ET6603	Digital Logic Lab	1
ET6611	Circuit Analysis I	4
BI5510	Human Biology	3
		15/16
Second Semester		Credits
CT5501	Personal Computer Maintenance & Repair	3
ET6040	Medical Electronics Repair	3
ET6030	Fundamentals of Medical Electronics	4
Math Elective* or Technical Elective**		3/4
		13/14

* Math Elective: Minimum requirement is MA5501 Intermediate Algebra in the first semester and MA5621 College Algebra & Trigonometry in the second semester or MA5621 College Algebra & Trigonometry in the first semester and a Technical Elective in the second semester.

** Technical Elective: CO4401 Cooperative Education I is highly recommended, but elective can include any offering from the Departments of Electronic Technology or Computer & Information Sciences. Students electing other than the Cooperative experience should obtain written approval from the Chairperson of the Electronic Technology Department.

† Student liability insurance is a requirement at a number of Cooperative Education sites. The premium is to be paid at the start of the semester.

Medical Terminology & Transcribing Certificate

The one-year certificate program in Medical Terminology & Transcribing is designed for those interested in working in a hospital medical record department, physician's office, clinic, laboratory, neighborhood health center, medical insurance office or other allied health institution. The program is of special interest to persons with some previous office training who wish to enhance job opportunities. It is an excellent choice for someone wishing to specialize in order to work in a medical or paramedical setting. All courses within this certificate program can be transferred to the Office Technology—Medical Option associate degree program. Twenty-seven credit hours are required for the certificate.

First Semester		Credits
TW6651	Computerized Keyboarding II*	3
MR6605	Introduction to Medical Language I	3
MR6661	Medical Transcription I	3
CT6630	Introduction to Personal Computers	3
		12
Second Semester		Credits
	Liberal Arts Elective	3
MR6606	Introduction to Medical Language II	3
MR6662	Medical Transcription II	3
SL6675	Word Processing	3
CO4401	Cooperative Education I	3
		15

* Pre-requisite: TW6650 Computerized Keyboarding I or equivalent.

Note: An entrance test is given to those who do not take the pre-requisite course, prior to acceptance into TW6651 Computerized Keyboarding II. Students with good keyboarding and formatting skills should take TW6651 Computerized Keyboarding II. Students who need to develop keyboarding and formatting skills should take TW6650 Computerized Keyboarding I.

Office Automation Certificate

The Office Automation certificate prepares you for immediate employment and promotion in today's exciting and rapidly changing computerized business environment. Using a hands-on approach, this program provides you with intensive practice in the most popular DOS and Windows used in business today, as well as exposure to the increasingly prevalent networked office computing environment. You are also encouraged to explore areas of personal interest through elective course offerings. Career opportunities exist in almost all fields for those who have the state of the art computer skills offered by this program. Twenty-four credit hours are required for the certificate.

First Semester		Credits
TW6651	Computerized Keyboarding II [†]	3
CT6630	Introduction to Personal Computers	3
	Business Elective	3
	Elective*	3
		12
Second Semester		Credits
SL6675	Word Processing ^{††}	3
BU4430	Business Software Integration ^{†††}	3
	Business Elective	3
	Elective*	3
		12

[†] Pre-requisite: TW6650 Computerized Keyboarding I or equivalent.

Note: An entrance test is given to those who do not take the pre-requisite course, prior to acceptance into TW6651 Computerized Keyboarding II. Students with good keyboarding and formatting skills should take TW6651 Computerized Keyboarding II. Students who need to develop keyboarding and formatting skills should take TW6650 Computerized Keyboarding I.

^{††} Pre-requisites: Keyboarding and document processing skills (TW6651 Computerized Keyboarding II or equivalent).

^{†††} Pre-requisite: TW6650 Computerized Keyboarding I or equivalent, and CT6630 Introduction to Personal Computers.

The following is a representative partial list of courses that can be applied toward this certificate. Students are urged to seek assistance from an advisor in selecting those courses which best meet their development needs and goals.

*** Recommended electives:**

AC6683 Computerized Accounting

Pre-requisites:

AC6610 Introductory Accounting I and

AC6611 Introductory Accounting II

CT5501 Personal Computer Maintenance & Repair

CT6632 Personal Computer Applications

Pre-requisite:

CT6630 Introductory to Personal Computers or
equivalent

FA7121 Macintosh Design

FA7122 Publication Design

MG6690 Introduction to Management
Information

Note: If you are planning to continue your studies for an associate degree from Northern Essex Community College upon completion of this certificate program, see an advisor to assist with selecting your elective courses.

Office Skills Certificate

The one-year program in Office Skills is designed as a short, intensive career program to give students the opportunity to acquire the skills necessary for profitable employment. The program includes basic core of required courses supplemented by a variety of electives designed to satisfy individual needs. Courses in the program may be transferred toward associate degree programs in office technology: executive secretarial. Twenty-four to twenty-five credit hours of work are required for the certificate.

First Semester		Credits
EN4401	English Composition I	3
TW6651	Computerized Keyboarding II [†]	
CT6630	Introduction to Personal Computers	3
AC6610	Introductory Accounting I	3
		12
Second Semester		Credits
SL6675	Word Processing ^{††}	3
	Office Technology Elective*	6
	Liberal Arts Elective**	3/4
		12/13

[†] Pre-requisite: TW6650 Computerized Keyboarding I or equivalent.

Note: An entrance test is given to those who do not take the pre-requisite course, prior to acceptance into TW6651 Computerized Keyboarding II. Students with good keyboarding and formatting skills should take TW6651 Computerized Keyboarding II. Students who need to develop keyboarding and formatting skills should take TW6650 Computerized Keyboarding I.

^{††} Pre-requisites: Keyboarding and document processing skills (TW6651 Computerized Keyboarding II or equivalent).

* Choose two of the following office skills electives: SL6663 Office Administration, CO4401 Cooperative Education I, SL6665 Essentials of Office Management, SH6601 Speedwriting, SL6682 Business Communications, AC6611 Introductory Accounting II, BU4400 Introduction to Business.

** Must be selected among Humanities, Social Science, Natural Science.

Office Technology: Executive Secretarial Option

The associate in science degree program in Office Technology: Executive Secretarial Option is designed to train students to assume high-level secretarial positions on the administrative and executive levels. The two-year curriculum offers a balanced program of academic and technical courses leading to specialization in the executive secretarial area. The college-educated secretary finds a wide variety of opportunities in every business and in every profession. Several courses will prepare students to seek gainful employment in the modern electronic office by providing opportunities for them to learn skills on several kinds of automated office equipment which integrates the advances of office technology. Sixty credit hours of work are required for graduation.

First Semester		Credits
EN4401	English Composition I	3
AC6610	Introductory Accounting I	3
TW6651	Computerized Keyboarding II [†]	3
MA5613	Business Math	3
CT6630	Introduction to Personal Computers	3

15

Second Semester		Credits
EN4402	English Composition II	3
AC6611	Introductory Accounting II ^{**}	3
SL6675	Word Processing ^{††}	3
SL6663	Office Administration	3
SL6682	Business Communication	3

15

Third Semester		Credits
SH6601	Speedwriting I	3
BU4430	Business Software Integration ^{†††}	3
SO3321	Introduction to Sociology or	
PS1101	Introduction to Psychology ^{***}	3
	Business Elective*	3
	Liberal Arts Elective ^{**}	3

15

Fourth Semester		Credits
SK6653	Machine Transcription	3
	Business Elective*	6
	Liberal Arts Elective ^{**}	6

15

[†] Pre-requisite: TW6650 Computerized Keyboarding I or equivalent.
Note: An entrance test is given to those who do not take the pre-requisite course prior to acceptance into TW6651 Computerized Keyboarding II. Students with good keyboarding and formatting skills should take TW6651 Computerized Keyboarding II. Students who need to develop keyboarding and formatting skills should take TW6650 Computerized Keyboarding I.

^{††} Pre-requisites: Keyboarding and document processing skills (TW6651 Computerized Keyboarding II or equivalent).

^{†††} Pre-requisite: TW6650 Computerized Keyboarding I or equivalent, and CT6630 Introduction to Personal Computers.

* Business Electives: Any courses offered with the following prefixes AC, BU, FI, LW, MG, MK, SL, SH, TW, MR or HS.

** Liberal Arts Electives: must be selected among Humanities, Social Science, Natural Science.

*** SO3324 Cultural Anthropology can be substituted for either Introduction to Psychology or Introduction to Sociology.

Study abroad opportunities are available in this program. Interested students should contact the Assistant Dean of Business for referral to the Study Abroad Program.

Office Technology: Medical Option

The associate in science degree program in Office Technology: Medical Option is designed as an intensive program of general education, secretarial science, and medical record technology courses. This degree program prepares students for employment in health care business offices, insurance companies, and other businesses directly related to the health care industry. The program provides study opportunities in medical terminology, medical transcription, office procedures, office automation and management, and patient account management. Sixty-three credit hours are required for graduation.

First Semester		Credits
EN4401	English Composition I	3
TW6651	Computerized Keyboarding II†	3
CT6630	Introduction to Personal Computers	3
MA5613	Business Math	3
SC5503	Integrated Science I	3
MR6605	Introduction to Medical Language I	3
		18
Second Semester		Credits
EN4402	English Composition II	3
AC6610	Introductory Accounting I	3
SL6675	Word Processing††	3
MR6606	Introduction to Medical Language II	3
SC5504	Integrated Science II	3
		15

Third Semester		Credits
AC6611	Introductory Accounting II	3
SL6682	Business Communication	3
BU4430	Business Software Integration†††	3
SL6663	Office Administration**	3
SO3321	Introduction to Sociology or	
PS1101	Introduction to Psychology***	3
		15
Fourth Semester		Credits
SL6665	Essentials of Office Management	3
	MR or MS elective*	3
	Business Elective or Practicum	3
SO3321	Introduction to Sociology or	
PS1101	Introduction to Psychology***	3
	Elective**	3
		15

† Pre-requisite: TW6650 Computerized Keyboarding I or equivalent.
Note: An entrance test is given to those who do not take the pre-requisite course prior to acceptance into TW6651 Computerized Keyboarding II. Students with good keyboarding and formatting skills should take TW6651 Computerized Keyboarding II. Students who need to develop keyboarding and formatting skills should take TW6650 Computerized Keyboarding I.

†† Pre-requisites: Keyboarding and document processing skills (TW6651 Computerized Keyboarding II or equivalent).

††† Pre-requisite: TW6650 Computerized Keyboarding I or equivalent, and CT6630 Introduction to Personal Computers

* MR and MS electives include: MR6661/2 Medical Record Transcription I & II; MR7001 Coding & Classification for Medical Billing; MA1005 Medical Transcription for Medical Assistants; MR6629 Medical Coding & Classification Systems. This elective is designed for students transferring in; new students can be advised accordingly.

** Note: If MS1015 Fundamentals of Medical Assisting: Administrative is completed with a grade of 'C' or better, the SL6663 Office Administration requirement is waived.

*** SO3324 Cultural Anthropology can be substituted for either Introduction to Psychology or Introduction to Sociology.

Study abroad opportunities are available in this program. Interested students should contact the Assistant Dean of Business for referral to the Study Abroad Program.

Office Technology: Travel and Tourism Option

The associate in science degree program in Office Technology: Travel and Tourism Option has been designed as either a terminal or transfer program. The purpose of this program is to provide students with the information required for employment in travel agencies, corporate travel offices, and airline agencies. Training involves Sabre System. Sixty credit hours of work are required for graduation.

First Semester		Credits
EN4401	English Composition I	3
AC6610	Introductory Accounting I	3
	Computerized Keyboarding I or II*	3
MA5613	Business Math	3
SL6682	Business Communications	3
		15

Second Semester		Credits
EN4402	English Composition II	3
AC6611	Introductory Accounting II**	3
	Computerized Keyboarding II or	
	Business Elective	3
BU4400	Introduction to Business	3
	Introduction to Sociology/	
	Psychology	3
		15

Third Semester		Credits
TL1001	Introduction to Travel/Tourism Industry	3
TL1010	Reservation/Ticketing I	3
	Liberal Arts Elective***	3
	Liberal Arts Elective****	3
SL6661	Office Administration	3
		15

Fourth Semester		Credits
Cooperative Education or Business Elective		3
TL1020	Reservation/Ticketing	
	Field Experience	3
TL1015	International/Domestic Destinations	3
	Liberal Arts Elective****	3
SH6601	Speedwriting I	3
		15

* Choose appropriate course after consultation with advisor.

** Pre-requisite: A grade of C or better in AC6610 Introductory Accounting I.

*** Introduction to Geography recommended.

**** Foreign language recommended.

Note: Partnership with Essex County Travel Services located at Northern Essex Community College, Room C-202. Live travel agency for student hands on applications.

Paralegal Studies Certificate

The certificate program in Paralegal combines a liberal arts foundation with a career concentration in the paralegal area. It is designed for students who may have some previous college education and work experience in a legal setting. A total of sixty-one college credits, with the following distribution are required: thirty-six credits of general education (liberal arts) in a minimum of four disciplines; twenty-five credits which must be taken at Northern Essex (see below).

Note: All law-specialty courses are taught by experienced attorneys. This program is approved by the American Bar Association.

Required Courses		Credits
GV3300	Introduction to Law	3
GV3315	Civil Rights & Liberties	3
LW6670	Legal Research & Writing	4
LW6661	Litigation	3
		13

In addition, students must elect four of the following five specialty courses:

Electives	Credits	
LW6663	Corporate Law	3
LW6662	Wills, Estates & Trusts	3
LW6653	Real Estate Law	3
LW6664	Family Law	3
LW6666	Tort Law	3

Recommended course sequence:

Fall Semester I		
GV3300	Introduction to Law	3
GV3315	Civil Rights & Liberties	3

Spring Semester I		
LW6670	Legal Research & Writing	4

Summer Semester I		
LW6661	Litigation	3

Fall Semester II		
LW6653	Real Estate Law	3
LW6666	Tort Law	3

Spring Semester II		
LW6664	Family Law	3
LW6663	Corporate Law	3

Summer Semester II		
LW6662	Wills, Trusts & Estates	3

Note: Depending on students' expertise, Computer Application in the Law and Cooperative Education are highly recommended. See Program Coordinator.

Paralegal Studies

The associate in science degree program in Paralegal Studies combines a liberal arts foundation with a career concentration in the paralegal area. Students have an opportunity to explore the field of law and to gain knowledge and develop essential skills to perform a wide range of supportive legal functions. A total of 62 credits is required for graduation.

Note: All law-specialty courses are taught by experienced attorneys. This program is approved by the American Bar Association.

First Semester		Credits
EN4401	English Composition I	3
CT6630	Introduction to Personal Computers* or Math Elective**	3
PS/SO	Behavioral Science Elective	3
GV3300	Introduction to Law	3
LW6670	Legal Research & Writing	4
		16
Second Semester		Credits
EN4402	English Composition II	3
	Humanities/Social Science Elective	3
GV3301	Constitutional Law	3
LW6661	Litigation	3
LW6653	Real Estate Law	3
		15

Third Semester		Credits
GV3315	Civil Rights & Liberties	3
LW6664	Family Law	3
LW6666	Tort Law	3
LW6667	Computer Applications in the Law	3
	Math Elective**	3
		15

Fourth Semester		Credits
	Humanities Elective	3
LW6663	Corporate Law	3
LW6662	Wills, Estate & Trusts Law	3
CO4401	Cooperative Education (with 8-10 hours of Legal Seminars)	3
	Natural Science Elective	4
		16

** Students must demonstrate proficiency in Introduction to Personal Computers in order to receive a waiver and take a math elective.*

*** Any math (MA) course except MA0020 Basic Math, MA0030 Basic Algebra, MA5501 Intermediate Algebra, MA5613 Business Math*

Note: Students must obtain a minimum grade of C in all law specialty courses (LW prefix) to meet Paralegal program graduation requirements. Credit for law specialty courses taken more than 6 years prior to completion of the Paralegal Studies program will not be awarded, unless the student's proficiency in the area can be demonstrated. To obtain NECC's program imprimatur, please consult this institution's graduation requirements. Students interested in transferring to a B.A. in Paralegal Studies, should consult with the receiving institution.

Program Admissions Procedure: Attendance at paralegal information session, letters of reference, and a personal interview with curriculum coordinator/designate.

Personal Computer Certificate

The certificate program in Personal Computer offers practical training in the basic skills necessary to operate a personal computer efficiently and effectively. Successful completion of the program prepares you for entry-level jobs in the wide variety of employment settings which utilize the personal computer as a basic working tool. This certificate program is also intended for individuals with previous college-level experience who wish to upgrade their skills in making use of the personal computer.

First Semester		Credits
CT6630	Introduction to Personal Computers	3
	Elective	3
	Elective or Computerized Keyboarding*	3
	Category I Elective**	3
		12
Second Semester		Credits
CT6632	Personal Computer Applications	3
EN4401	English Composition I	3
	Category I Elective**	3
	Category II Elective***	3
		12

* Students must have a keyboarding skill of 25 words per minute or TW6650 Computerized Keyboarding I must be taken in the first semester.

** Category I Elective: Two courses must be selected in the same subject area such as accounting, real estate, law, banking, journalism, medical records, office technology, criminal justice, etc.

*** Category II Elective: Select one course from the following list: CT5501 Personal Computer Maintenance & Repair, CT6681 Advanced Data Base Management Software. Any advanced computerized course which will enhance the Category I electives selected. For example: students who selected Accounting as a Category I subject area would elect AC6683 Computerized Accounting as a Category II course.

Note: Developmental basic skills courses may not be counted as electives.

Practical Nursing Certificate

The ten-month certificate program in Practical Nursing is designed to provide the student with the theory and skills needed to function as a competent entry-level graduate practical nurse. The curriculum conforms to the guidelines established by the Massachusetts Board of Registration in Nursing and is fully accredited by the National League for Nursing. The application for registration as a practical nurse with examination includes the following question – “Court Record: ‘Have you ever been convicted by Court of Law? Yes ____ No _____. If “yes,” please enclose explanation stating date, charge, disposition’.”

Forty-four credit hours of work are required for the certificate. The Practical Nursing course sequence is 40 weeks in length, exclusive of vacations, and is divided into two semesters and a summer session.

Program Pre-requisite: High school diploma or equivalent. **Admission Condition:** personal interview.

Note: PS1101 Introduction to Psychology (3 credits) is a requirement. It must be completed prior to the Fall semester. It is a pre-requisite for PS1210 Developmental Psychology I and PS1211 Developmental Psychology II.

Fall Semester		Credits
PN0101	Practical Nursing I	10
SC5503	Integrated Science I	3
PS1210	Developmental Psychology I	3
		16
Spring Semester		Credits
PN0201	Practical Nursing II	10
SC5504	Integrated Science II	3
PS1211	Developmental Psychology II	3
		16
Summer Session		Credits
PN0301	Practical Nursing III	8
PN0310	Issues & Trends in Practical Nursing	1
		9

The Curriculum

Sequence of Courses: the practical nursing curriculum has been structured in a special sequence. Students are required to follow this sequence of courses throughout the entire three semesters of the practical nursing program. Students are also required to complete successfully all courses prior to or during each semester before proceeding to the next semester. All pre-requisite courses must be completed in the appropriate sequence. Any deviation from the planned schedule can be made only with written permission from the practical nursing program coordinator. It is the responsibility of the student to be knowledgeable regarding when courses are offered and plan accordingly.

Grading: The final grade in Practical Nursing courses is based on theory and on performance in the clinical setting. A failure in either area constitutes failure for the course. Students must maintain a "C" in practical nursing courses to proceed to the next semester. Graduation from the practical nursing program is contingent on maintaining at least a grade of "C" in all Practical Nursing courses and a quality point average (QPA) of 2.0.

Exams: Standardized National League for Nursing Examinations and Mosby's Assess Test are required as an integral aspect of the curriculum for graduation.

Travel: Students are responsible for their own transportation to and from clinical agencies. Selected clinical experiences may be offered during the evening hours. Students must be prepared for these alternately scheduled hours. Students may request experience in a specific clinical agency; however, final decision regarding the placement of students rests with the practical nursing faculty.

Note: On occasion, conferences may be scheduled at the school during clinical hours, requiring students to return to the school from the clinical agency.

Student Liability Insurance: All practical nursing students are required to carry student liability insurance. The premium is to be paid at registration in the Fall of each year.

Health: Nursing students are required to complete a health evaluation prior to final acceptance to the practical nursing program. Students desiring a career in practical nursing must be physically and emotionally capable of assuming responsibility for client care in the health care institution they are assigned to for clinical practice.

C.P.R. Certification: The practical nursing program requires that all students be C.P.R. Certified (Basic Life Support Level C or Health Care Provider) prior to clinical experience in a health care institution. Students must make every effort to become certified prior to admission to the practical nursing program, but certification must be obtained prior to the start of clinical practice. This may be accomplished by participating in C.P.R. instruction offered by the American Heart Association, the American Red Cross or local hospitals. It is also expected that students maintain certification throughout the educational program in practical nursing.

Radiologic Technology

The associate in science degree program in Radiologic Technology integrates all of the technical content in the program and provides opportunities to employ classroom techniques in a supervised clinical area. This program is fully accredited by the American Medical Association's Committee on Allied Health Education and Accreditation, in collaboration with the Joint Review Committee on Education in Radiologic Technology. The program prepares students for the national board examination sponsored by the American Registry of Radiologic Technologists. Successful completion of the exam qualifies students as Registered Radiologic Technologist.

In order to progress in the program, a grade of "C" or better is required in each radiologic technology course. The radiologic technology program requires that all students be CPR Certified (Basic Life Support-Form C) prior to beginning RT6505 Radiologic Technology: An Introduction. CPR certification is offered by the American Heart Association, the American Red Cross, local hospitals and other qualified agencies. Students are expected to maintain certification throughout the program. Seventy credit hours are required for graduation.

Program Pre-requisites: Two science courses (one must be in biology, anatomy and physiology, chemistry or physics); and Algebra I & II. The sequence of courses allows this program to be completed in two years (22 consecutive months) by full-time students.

Admission Condition: The Program Coordinator (director) will assign each qualified applicant to a clinical affiliate hospital where, it is anticipated that the applicant may complete their clinical practicum. Under the direction of the affiliate's clinical instructor, the applicant will complete a supervised observation of radiologic procedures and tour the Radiology Department. The clinical instructor shall complete an assessment of the applicant which shall be considered by the College in making the admission decision.

Summer Session*		Credits
RT6505	Radiologic Tech: An Introduction	3
		3
First Semester		Credits
EN4401	English Composition I	3
BI5519	Anatomy & Physiology I	4
PI6511	Radiologic Science I	3
RT6521	Radiologic Technology I	4
RT6515	Clinical Practicum I	2
		16

Second Semester		Credits
EN4402	English Composition II	3
BI5520	Anatomy & Physiology II	4
PI6512	Radiologic Science II	3
RT6522	Radiologic Technology II	4
RT6525	Clinical Practicum II	2
Humanities Requirement †		3
		19

Summer Session**		Credits
RT6523	Radiologic Practicum	2
		2

Third Semester		Credits
RT6531	Radiologic Technology III	3
RT6533	Advanced Radiographic Positioning	3
RT6535	Clinical Practicum III	3
BI5530	Fundamentals of Disease Process	3
Behavioral Science Requirement ††		3
		15

Fourth Semester		Credits
RT6539	Special Radiologic Procedures	3
RT6541	Computers in Radiography	3
RT6549	Radiobiology	3
RT6545	Clinical Practicum IV	3
Liberal Arts/Math Elective†††		3
		15

* Approximately four weeks from about August 1-31 of the summer prior to the first semester of work in this program, each student must complete RT6505 Radiologic Technology: An Introduction, as a three-credit course which includes clinical practicum at affiliate hospitals.

** Ten consecutive weeks of continued clinical practicum at affiliate hospitals.

† Select one: Philosophy, Literature, or Introduction to Humanities.

†† Select one: Introduction to Psychology, Developmental Psychology I: Childhood and Adolescence, Developmental Psychology II: Adulthood and Aging, Introduction to Sociology, Death and Dying, Race and Ethnic Relations

††† Students intending to transfer are strongly encouraged to elect an appropriate college level mathematics course.

Student Liability Insurance: All Radiologic Technology students are required to carry student liability insurance. The premium is to be paid prior to the beginning of classes. Students may not participate in the Radiologic Technology program without malpractice insurance coverage.

Health: Radiologic Technology students are required to complete a health evaluation prior to final acceptance to the Radiologic Technology program. The college's Student Health Service will designate when this information is due at the college.

Registered Nursing Day/Evening Options

The associate in science degree program in Registered Nursing is fully accredited by the National League for Nursing. It is a comprehensive, demanding and rewarding program which requires a strong commitment from students to complete the course of study. Sixty-eight credit hours of work (34 nursing credits and 34 general education credits) are required for graduation. Students complete the program in a 2-year time frame. It is possible for students to fulfill the general education requirements in either the Day Division or the Division of Continuing Education Services. The registered nursing program requires that all students be C.P.R. Certified (Basic Life Support or Health Care Provider) prior to clinical experience in a health care institution. Students should make every effort to become certified prior to admission to the registered nursing program, but certification must be obtained prior to the start of clinical practice. This may be accomplished by participating in C.P.R. instruction offered by the American Heart Association, the American Red Cross or local hospitals. Students are also expected to maintain certification throughout their educational program in registered nursing. Graduates are prepared to write the State Board Examination for licensure as a Registered Nurse.

(The Application for Registration as a Professional Nurse With Examination includes the following question – "Court Record: 'Have you ever been convicted by Court of Law? Yes ___ No ___. If "yes," please enclose explanation stating date, charge, disposition'.")

Program Pre-requisites: A high school diploma or equivalency certificate (GED) is required for admission to the program. 4 years of high school English; 2 years of science (one must be a laboratory course in chemistry); two years of mathematics (at least one year of algebra). Students who have completed Anatomy & Physiology I & II (at the college level) with a minimum grade of "C" shall not be required to complete the high school chemistry pre-requisite as consideration for acceptance into the Registered Nurse Program.

The Curriculum

Sequence of Courses: Any deviation from the planned schedule can be made only with written permission from the Director of the Registered Nursing Program. It is the responsibility of the student to be knowledgeable regarding the sequence of courses and to plan their schedule accordingly.

Grading: The final grade in a Nursing course is based on classroom theory and clinical performance. A failure in either area constitutes failure for the course. Students must maintain a "C" in Nursing courses to proceed to the next semester. Graduation from the Registered Nursing program is contingent on maintaining at least a grade of "C" in all Nursing courses and a QPA (Quality Point Average) of 2.0.

Travel: Students are responsible for their own transportation to and from clinical agencies. Clinical experience is scheduled weekly and may include day and evening clinical experiences. Students must be prepared for these alternately scheduled hours. Students may request experience in a specific clinical agency; however, final decision regarding the placement of students rests with the Nursing faculty.

Note: On occasion, conferences may be scheduled at the college during clinical hours, requiring students to return to the college from the clinical agency.

Student Professional Liability Insurance: All Registered Nursing students are required to hold student professional liability insurance. The premium is to be paid at registration in the Fall of each year.

Health: Registered Nursing students are required to complete a health evaluation as a condition of final acceptance to the Registered Nursing program. Students desiring a career in Registered Nursing must be physically and emotionally capable of assuming responsibility for client care in health care institutions.

Standardized Achievement Exams: Mosby's Assess Test examination is required as an integral aspect of the curriculum for graduation. The test is designed to assist students to evaluate their preparation for the licensing examination.

Advanced Placement: The Registered Nursing Program provides advanced placement opportunity through the College's Credit for Life Learning policy. Opportunity is provided for applicants with previous nursing education and experience to apply for advanced placement in the Registered Nurse Program.

Note: The following curriculum plans demonstrate the program structure for the 2-year, 2-1/2-year and 12-month program. Many of our students design three- to five-year plans or accelerate their progress by attending summer and/or evening classes. For more information, see an advisor.

Registered Nursing Curriculum

DAY OPTION † (TOTAL 68 CREDITS)

Fall Semester		Credits
NS6603	Nursing I	8
BI5519	Anatomy & Physiology I	4
EN4401	English Composition I	3
PS1101	Introduction to Psychology	3
		18

Pre-requisite: Acceptance into the Registered Nurse Program.

Spring Semester		Credits
NS6604	Nursing II	8
BI5520	Anatomy & Physiology II	4
EN4402	English Composition II	3
PS1210	Developmental Psychology I	3
		18

Pre-requisites: NS6603 Nursing I must be completed with a grade of C or better to continue to NS6604 Nursing II and prior completion of concurrent first semester courses.

Fall Semester		Credits
NS6653	Nursing III	8
SO3321	Introduction to Sociology	3
BI5553	Microbiology	4
PS1211	Developmental Psychology II	3
		18

Pre-requisites: NS6604 Nursing II must be completed with a grade of C or better to continue to NS6653 Nursing III and prior completion of concurrent second semester courses.

Spring Semester		Credits
NS6654	Nursing IV	10
	Humanities Elective*	3
CT3301	Computer Literacy for Health Professionals	1
		14

Pre-requisites: NS6653 Nursing III must be completed with a grade of "C" or better and prior completion of concurrent third semester courses. NS6654 Nursing IV must be completed with a grade of C or better to graduate.

* Humanities elective to be chosen from courses offered by the Departments of Creative Arts and/or English and/or Foreign Languages, Philosophy & Religion.

† Students are expected to follow the planned curriculum sequence in order to be successful in the Registered Nurse Program.

Registered Nursing Curriculum

EVENING OPTION † (TOTAL 68 CREDITS)

The Evening Option of the Registered Nursing program requires two years to complete.

Program Pre-requisites: The general pre-requisites for the Registered Nurse program, and in addition, the following 3 credit courses must be completed prior to beginning nursing courses: EN4401 English Composition I, PS1101 Introduction to Psychology and PS1210 Developmental Psychology I. It is strongly recommended that BI5519 Anatomy & Physiology I, BI5520 Anatomy & Physiology II, and BI5553 Microbiology be completed prior to entering Nursing I.

Fall Semester		Credits
NS6603	Nursing I*	8
BI5519	Anatomy & Physiology I	4
EN4402	English Composition II	3
		15

* *Pre-requisite: Acceptance into the RN Program.*

Spring Semester		Credits
NS6604	Nursing II*	8
BI5520	Anatomy & Physiology II	4
SO3321	Introduction to Sociology	3
		15

* *Pre-requisites: Nursing I must be completed with a grade of C or better to continue to Nursing II, and completion of concurrent semester courses.*

Fall Semester		Credits
NS6653	Nursing III*	8
BI5553	Microbiology	4
PS1211	Developmental Psychology II	3
		15

* *Pre-requisite: Nursing II must be completed with a grade C or better to continue to Nursing III.*

Spring Semester		Credits
NS6654	Nursing IV*	10
	Humanities Elective**	3
CT3301	Computer Literacy for Health Professionals	1
		14

Pre-requisites: NS6653 Nursing III must be completed with a grade of C or better to continue to NS6654 Nursing IV and completion of concurrent semester courses. NS6654 Nursing IV must be completed with a grade of C or better to graduate.

** *Humanities elective to be chosen from courses offered by the departments of Creative Arts and/or English and/or Foreign Languages, Philosophy & Religion.*

† *Students are expected to follow the planned curriculum sequence in order to be successful in the Registered Nurse program.*

Respiratory Care

The associate in science degree program in Respiratory Care incorporates all of the learning objectives of the entry-level certificate program and beyond to present the theoretical knowledge and clinical procedural skills required for employment as an advanced level practitioner. The respiratory care practitioner specializes in the application of scientific knowledge and theory to practical clinical problems of respiratory care. They are qualified to assume primary responsibility for all respiratory care modalities and may be required to exercise considerable independent clinical judgment in the respiratory care of patients under the direct or indirect supervision of a physician.

Graduates are prepared to sit for the examination given by the National Board for Respiratory Care to become a Registered Respiratory Therapist. This program is fully accredited by the Joint Review Committee for Respiratory Therapy Education and Committee on Allied Health and Education of the American Medical Association.

In order to progress in the program, a grade of C or better is required in each Respiratory Care course. Sixty-nine credit hours are required for graduation.

Program Pre-requisites: Two science courses; successful passing of a basic algebra assessment test and an interview with the coordinator.

First Semester		Credits
BI5519	Anatomy & Physiology I	4
EN4401	English Composition I	3
RS6614	Introduction to Respiratory Care	7
RS6615	Respiratory Practicum I	2
		16

Second Semester		Credits
BI5520	Anatomy & Physiology II	4
RS6629	Respiratory Pharmacology	2
RS6624	Respiratory Procedures & Assessment	7
RS6625	Respiratory Practicum II	4
		17

Third Semester		Credits
EN4402	English Composition II	3
BI5553	Microbiology	4
RS6644	Ventilator Management and Pulmonary Function Testing	7
RS6645	Respiratory Practicum III	4
		18

Fourth Semester		Credits
Humanities Elective <i>or</i> Social Science Elective		3
RS6659	Respiratory Care Seminar	2
RS6654	Respiratory Intensive Care	6
RS6655	Respiratory Practicum IV	4
Elective		3
		18

Student Professional Liability Insurance: All Respiratory Care students are required to carry student professional liability insurance. The premium is to be paid prior to the beginning of classes. Students may not participate in the Respiratory Care program without this insurance coverage.

Health: Respiratory Care students are required to complete a health evaluation prior to final acceptance to the Respiratory program. The College's Student Health Service will designate when the information is due at the college.

Respiratory Care Certificate

The certificate program in Respiratory Care makes up the first three semesters of the associate degree program. The respiratory care certificate program prepares the student for an entry-level practitioner position by teaching the student fundamental knowledge, technical information and clinical skills necessary for employment in the respiratory care field. Certificate graduates will assume clinical responsibility for a variety of respiratory care procedures under the supervision of advanced level respiratory care practitioners and/or physicians.

Graduates are prepared to sit for the examination given by the National Board for Respiratory Care to become Certified Respiratory Care Technicians. In order to progress in the program, a grade of C or better is required in each Respiratory Care course. Forty-eight credit hours are required for the certificate.

Program Pre-requisites: Two science courses; successful passing of a basic algebra assessment test and an interview with the coordinator.

First Semester		Credits
BI5519	Anatomy & Physiology I	4
RS6614	Introduction to Respiratory Care	7
RS6615	Respiratory Practicum I	2
EN4401	English Composition I	3
		17
Second Semester		Credits
BI5520	Anatomy & Physiology II	4
RS6629	Respiratory Pharmacology	2
RS6624	Respiratory Procedures & Assessment	7
RS6625	Respiratory Practicum II	4
		16
Third Semester		Credits
RS6644	Ventilator Management & Pulmonary Function Testing	7
RS6645	Respiratory Practicum III	4
BI5553	Microbiology	4
		15

Student Professional Liability Insurance: All Respiratory Care students are required to carry student professional liability insurance. The premium is to be paid prior to the beginning of classes. Students may not participate in the Respiratory Care program without this insurance coverage.

Health: Respiratory Care students are required to complete a health evaluation prior to final acceptance to the respiratory program. The college's student health service will designate when the information is due at the college.

Total Quality Management Certificate

The certificate in Total Quality Management (courses currently offered only in the evening) is designed as an intensive career program for students desiring specific training in total quality management philosophies, strategies and tools. The program provides the skills necessary for managing or participating in a companywide program for workforce utilization, management of process/product/service quality, customer service, productivity and continuous improvement in a manufacturing or service environment. Eighteen credit hours are required for the certificate and may be transferred to the associate degree option in Business Management: Total Quality Management.

First Semester		Credits
MG6620	Introduction to Total Quality Management	3
MG6625	Planning for Total Quality Management	3
MG6633	Process Control & Improvement	3
		9
Second Semester		Credits
MG6630	Management of Total Quality Systems	3
MG6635	Management of Product Design	3
	Elective*	3
		9

* Elective (choose from the following): MG6666 Principles of Management, MG7701 Principles of Materials Management, MG7730 Just-In-Time Manufacturing, CT6630 Introduction to Personal Computers, MG7720 Production & Capacity Management, MG7706 Materials Requirements Planning and other related state of the art special topics courses as offered and approved for this program.

Travel and Tourism Management Certificate

The certificate program in Travel and Tourism Management provides the student with the knowledge and practical skills required to gain employment in the travel industry. Twenty-seven credit hours are required for the certificate.

First Semester		Credits
TL1001	Introduction to the Travel & Tourism Industry	3
GE9511	Introduction to Geography	3
TL1010	Reservation/Ticketing I	3
BU4400	Introduction to Business	3
AC6600	Basic Business and Bookkeeping*	3
		15
Second Semester		Credits
SL6682	Business Communication	3
TL1020	Reservation/Ticketing II	3
	Elective**	3
C04401	Cooperative Education I	3
		12

* Students who are planning to complete the Travel and Tourism associate degree will be required to take AC6610 Introductory Accounting I.

** Recommended electives:

SH6601	Speedwriting I
TW6651	Computerized Keyboarding II
TL1015	International and Domestic Destinations
SL6665	Essentials of Office Management
CT6630	Introduction to Personal Computers
MK6678	Principles of Marketing
	Foreign Language

Note: TW6650 Computerized Keyboarding I or equivalent is a preprogram requirement. Students must demonstrate competencies by taking a mandatory keyboarding assessment test. Students who do not pass this test must elect TW6650 before or during the first semester of study.

SPECIALIZED STUDY OPPORTUNITIES

Career Development Center

The Career Development Center at NECC is a one-stop full service center which offers opportunities for career guidance, job placement, and professional growth. Included in the Center's services is a wide range of career assistance:

- Cooperative Education: a course offering placement in a field related to the student's major offers 3 academic credits upon successful completion of course requirements. (Adult Co-ops are also available for the veteran or transitioning job seeker.)
- Internship Assistance: staff and services that aid the student in internship searches and placement.
- Community Service Learning: opportunities for students to work in campus and area social service, civic, and other volunteer agencies as part of the national community service program.
- Career Counseling: a service that offers interest tests, decision-making, skill-building, and career focus groups.
- Full-and Part Time Placement: a service that aids students in the job search.
- Disney Opportunities: a program providing on-site work positions with the Disney Corporation.
- Career Development Workshops/Seminars: a service that provides campus and corporate workshops in topics pertinent to a company's or employees professional growth.
- Federal Work-Study Assistance: A program that offers NECC students on financial aid opportunities for work positions either on-campus or in qualified off-campus sites.

- School To Work: a collaboration with area school and business partnerships through which NECC representatives work on school and career choice issues with local, state, and federal participants students and staff from area elementary, middle and secondary schools; business mentors, and state and federal personnel.

(The focus of STW is to conduct connecting activities that will highlight the relationship between academic studies and job positions - NECC continues these career services for students enrolled here who are coming from high school STW programs.)

English as a Second Language

Courses in English as a Second Language (ESL) are available to assist students for whom English is not a native language and who lack the proficiency in academic English judged necessary to be successful in college level work. Upon acceptance into a degree program, applicants will be required to take an assessment test and may be required to increase general fluency and/or command of academic American English.

Individuals may take the College's English as a Second Language test battery (Grammar and Structure, Oral Communication Skills, Reading, Writing) to determine if they may profit by taking applicable courses. Call (978) 738-7476 to make an appointment.

Non-native users of English may test out of all ESL classes at Northern Essex Community College by passing internal tests or by obtaining a score of 500 on the TOEFL with a 50 in the Listening Comprehension Section. (TOEFL: Test of English as a Foreign Language, Educational Testing Service, Princeton, NJ)

Full financial aid is available for those who qualify. A student must be enrolled in a degree or certificate program in order to receive financial aid.

Credit for Life Learning is not offered by the college for any English as a Second Language course. NECCUM Cross-Registration

English Language Cluster for Deaf and Hard of Hearing Students

Courses in English structure, writing and reading for deaf or hard of hearing students are available to help students strengthen their English skills and to prepare them for further academic work.

Upon acceptance into a degree program, applicants will be required to take an assessment test and may be required to take one or more of these courses to strengthen basic skills. Courses are taught in American Sign Language to deaf and hard of hearing students. Credit for Life Learning is not offered by the college for any English Language Cluster course.

Financial aid is available for those who qualify. A student must be enrolled in a degree or certificate program in order to receive financial aid. Cluster students are limited to one year of financial aid.

For details of this program call Deaf and Hard of Hearing Services at (978) 556-3868 (voice/TTY).

High School Students

Students may take courses at Northern Essex for credit (on a full-time or part-time basis) while still in high school as participants in the College Experience for High School Seniors. Regular tuition and fees apply. For more information, contact the Admissions Office. The number is (978) 556-3600. A limited number of high school juniors and seniors may be eligible to attend Northern Essex at no cost under the Dual Enrollment Program. For more information, contact your high school guidance office.

NECCUM Cross-Registration

Students enrolled at Northern Essex Community College may cross-register at any of the other educational institutions that form the Northeast Consortium of Colleges and Universities in Massachusetts (NECCUM). NECCUM members are Bradford College, Endicott College, Gordon College, Marian Court College, Merrimack College, Middlesex Community College, Montserrat School of Visual Art, Northern Essex Community College, North Shore Community College, Salem State College and the University of Massachusetts/Lowell.

Students may register for a course at a participating NECCUM college if the course they need is not being currently offered at Northern Essex. The course must however be applicable toward their program requirements. To be eligible, a student must have a 2.0 GPA, be matriculated in a program, receive permission of the Registrar and host college, and be the equivalent of a full-time student (inclusive of NECCUM credits).

All policies, including the tuition and fees rate of this college, apply to NECCUM courses. If interested pick up a NECCUM application in the Registrar's Office.

Study Abroad Programs

As a member of the College Consortium for International Studies in Washington, Northern Essex offers study abroad programs in more than twenty countries (Bulgaria, China, Costa Rica, Dominican Republic, Ecuador, England, France, Germany, Greece, India, Ireland, Israel, Italy, Jamaica, Japan, Mexico, Portugal, Russia, Spain and Switzerland). Students can enroll in a year, semester, summer, or as short as one-week study travel "starter" programs. Northern Essex Community College is also a sponsor of the CCIS India Program. With advance planning and approval, study abroad credits can be readily applied to the student's degree requirements. Contact Dr. Usha Sellers at (978) 556-3806 for additional information.

COURSE DESCRIPTIONS

Symbols

All courses are identified by a six-symbol description preceding the course title. The first two digits relate to the discipline and are letter symbols; the last four digits are numbers. The following list of symbols is provided as a guide to help each student locate a specific course description:

AC	Accounting	IT	Italian
AL	American Sign Language	TW	Keyboarding
BK	Banking	LN	Language
BI	Biology	LW	Law
BU	Business	MG	Management
CH	Chemistry	MK	Marketing
CE	Civil Technology	MA	Mathematics
CT	Computer & Information Sciences	MS	Medical Assistant
CO	Cooperative Education	MU	Music
CJ	Criminal Justice	NS	Nursing
DA	Dental Assistant	SL	Office Administration
CC	Early Childhood Education	SK	Office Techniques
ES	Earth Science	PH	Philosophy
EC	Economics	PE	Physical/Outdoor Education & Leisure Studies
ED	Education	PI	Physics
ET	Electronics	PN	Practical Nursing
EN	English/Literature	PS	Psychology
FI	Finance	RT	Radiologic Technology
FA	Fine Arts	RE	Religion
FR	French	RS	Respiratory Care
GE	Geography	SC	Science
GM	German	SH	Shorthand/Dictation/Transcription
GV	Government	IN	Sign Language Interpreter
MR	Health Information Technology	SO	Sociology
HS	Health Services	SP	Spanish
HI	History	TH	Theatre
HU	Humanities	TL	Travel and Tourism
MH	Human Services		

Electives

Electives are courses not specifically prescribed in a curriculum. See the Academic Policy and Procedures section of this catalog for more information. Students should consult their Academic Advisor before registering for elective courses.

Course Scheduling

The Northern Essex Community College Catalog generally makes no attempt to indicate when or for whom specific courses are scheduled. All courses necessary to complete a program may not be available every year or semester.

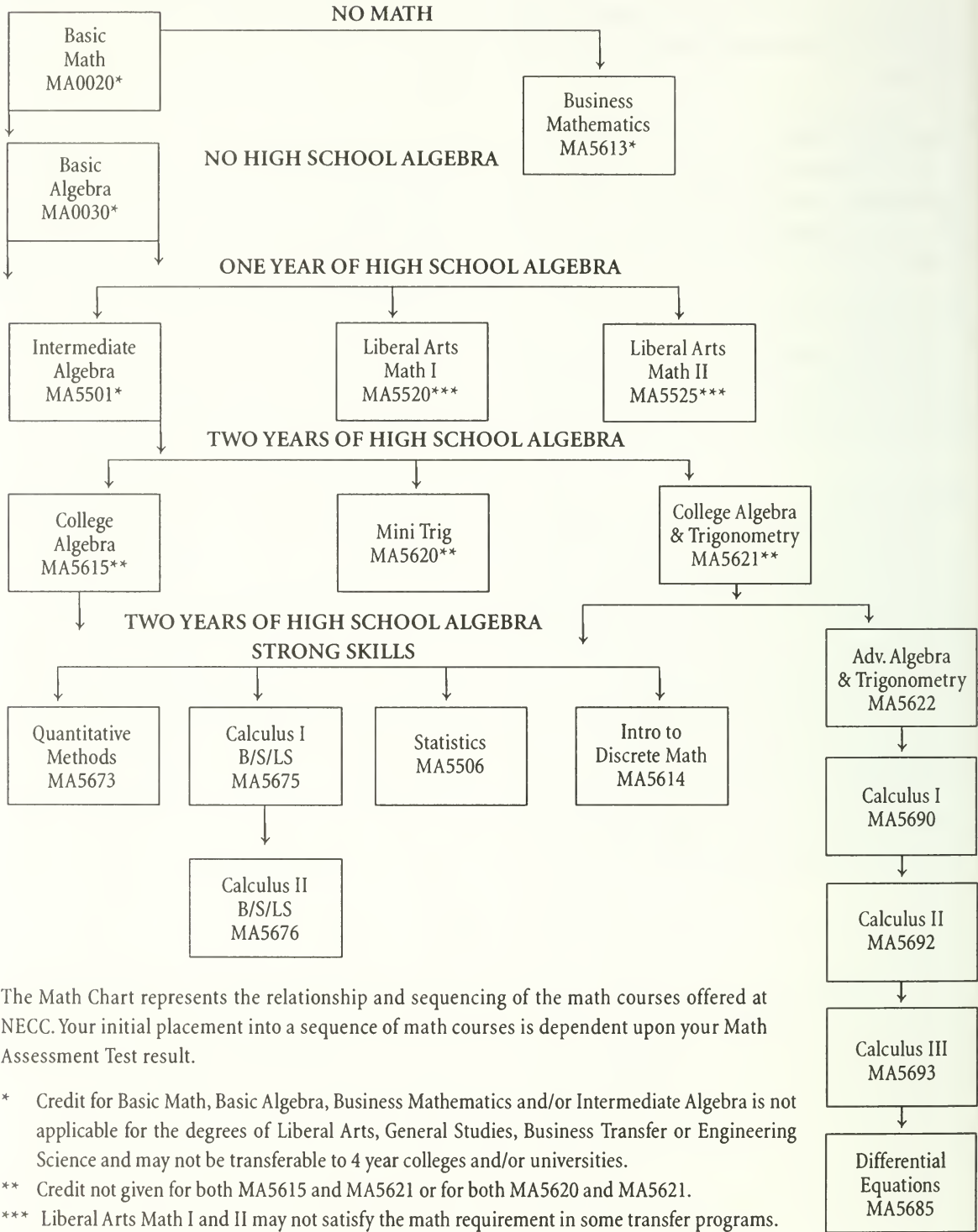
Special Topics/Directed Studies Courses

In addition to the courses listed, courses of a special nature may be made available for students. For further information concerning such courses, see the Academic Policy and Procedures section of the catalog.

Math Courses

Math requirements vary for different academic programs. Please see an academic advisor for math course sequencing in an academic program. Note: Credit for Basic Math, Basic Algebra, Business Mathematics and/ or Intermediate Algebra is not applicable for the degrees of Liberal Arts, General Studies, Business Transfer or Engineering Science and may not be transferable to four year colleges and/or universities. Credit is not given for both MA5615 and MA5621 or for both MA5620 and MA5621. For all mathematics courses involving Pre-requisites, the student must earn a C or better in the Pre-requisite course before attempting the next course in the sequence.

MATH CHART



The Math Chart represents the relationship and sequencing of the math courses offered at NECC. Your initial placement into a sequence of math courses is dependent upon your Math Assessment Test result.

* Credit for Basic Math, Basic Algebra, Business Mathematics and/or Intermediate Algebra is not applicable for the degrees of Liberal Arts, General Studies, Business Transfer or Engineering Science and may not be transferable to 4 year colleges and/or universities.

** Credit not given for both MA5615 and MA5621 or for both MA5620 and MA5621.

*** Liberal Arts Math I and II may not satisfy the math requirement in some transfer programs.

Please see an academic advisor before selecting the math course sequences in your academic program.

Accounting

AC6600 BASIC BUSINESS & BOOKKEEPING

Includes the study of business papers, bank checks, reconciliations, payroll accounts, the use of journals, general subsidiary ledger and the preparation of financial statements. As part of the course, the student will be required to complete a practice set. Also provides practical experience in applying the fundamentals of accounting. *One semester course; 3 credit hours; 3 class hours/week.*

AC6610 INTRODUCTORY ACCOUNTING I

Basic concepts of accounting; uses of accounting data. Topics include the theory of debit and credit, use of journals and ledgers, analysis and recording of financial transactions, the accounting for both a service type business and a merchandising business, internal control, special journals and the control of cash transactions, accounts receivable, accounts payable, inventories and plant and equipment. *One semester course; 3 credit hours; 3 class hours/week.*

AC6611 INTRODUCTORY ACCOUNTING II

Continuation of AC6610. Emphasis is on accounting for payrolls, partnerships, corporations, corporate stock, retained earnings, dividends, bonds, present value theory, marketable securities and investments, non-current assets and liabilities, and Statement of Changes in Financial Position. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: AC6610 with a grade of C or better.*

AC6620 INTERMEDIATE ACCOUNTING I

Detailed study of accounting theory/practice as it relates to financial accounting. Includes income statement and balance sheet presentation, cash, temporary investments, short term receivables, inventories and current liabilities. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: AC6611.*

AC6621 INTERMEDIATE ACCOUNTING II

Continuation of AC6620. Includes tangible assets, intangible assets, long term liabilities, elements of corporate capital, investments and statement of changes in financial position. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: AC6620.*

AC6671 COST ACCOUNTING

Intensive study of cost methods; costing for materials, labor and factory overhead; job order process, direct costing and the use of standards and computer spreadsheets. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: AC6611.*

AC6682 TAX ACCOUNTING

An introduction to the principles of federal taxation with emphasis on history of income taxation, gross income, deductions, exemptions, accounting records, computerized preparation and filing of tax returns. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: AC6611.*

AC6683 COMPUTERIZED ACCOUNTING SYSTEMS (CAS)

Designed to provide both reinforcement of Introductory Accounting I and II and hands on experience with a microcomputer and its role in business situations. System design theory and accounting theory will be used to show the flow of business information through data entry and financial preparation and reproduction. *One semester course; 3 credit hours; 3 class hours and 1 lab hour/week. Pre-requisite: AC6611.*

American Sign Language

Note: All American Sign Language courses are considered to be humanities/foreign language courses. Students seeking to transfer are advised to consult the requirements of colleges to which they plan to transfer to determine whether they will be accepted either as humanities and/or foreign language courses for purposes of transfer.

AL1001 INTRO. AMERICAN SIGN LANGUAGE I

Designed to present basic grammatical rules in the use of American Sign Language (ASL). Basic ASL vocabulary, manual alphabet/numbers, visual-gestural communication and information related to Deaf Culture will also be covered. All lecture, laboratory activities and outside assignments are intended to develop basic competence in receptive and expressive use of ASL. The class will be taught primarily in ASL. Deaf and Hard of Hearing individuals have priority in securing seats in this course. *One semester course; 3 credit hours; 2 class hour and 2 lab hours/week.*

AL1002 INTRO. AMERICAN SIGN LANGUAGE II

Designed to be a continuation of Introductory American Sign Language I. There will be exposure to complex grammatical rules in the use of American Sign Language (ASL). Additional ASL vocabulary development, finger-spelling/numbers, and information related to Deaf Culture will also be addressed. All lecture, laboratory activities, and outside assignments are intended to develop further competence in receptive and expressive use of ASL. Class will be taught primarily in ASL. Deaf and Hard of Hearing individuals have priority in securing seats in this course. *One semester course; 3 credit hours; 2 class hours and 2 lab hours/week. Pre-requisite: Intro. American Sign Language I with a grade of C or better.*

AL1003 AMERICAN SIGN LANGUAGE I

Intensive, direct immersion approach to learning American Sign Language (ASL). Basic grammatical rules in the use of ASL, basic ASL vocabulary, manual alphabet/numbers, and visual-gestural communication are covered. Includes information about Deaf Culture, history of ASL and how it exists in society today. All lecture, laboratory activities and outside assignments are intended to develop basic competency in receptive and expressive use of ASL. The class will be taught primarily in ASL. *One semester course; 4 credit hours; 3 class hours and 3 lab hours/week. Pre-requisites: AL1002 Introductory American Sign Language II with a "B" or better or demonstrate comparable skills/knowledge; completed or demonstrated sufficient skills/knowledge to enter EN4401 English Composition I and permission of the coordinator.*

AL2003 AMERICAN SIGN LANGUAGE II

Designed to be a continuation of American Sign Language I. Complex grammatical rules in the use of ASL, additional ASL vocabulary, finger spelling/numbers, and visual-gestural communication will be covered. Includes information about Deaf Culture. All lecture, laboratory activities and outside assignments are intended to further develop receptive and expressive competence in the use of ASL. *One semester course; 4 credit hours; 3 class hours and 3 lab hours/week. Pre-requisite: American Sign Language I with a grade of C or better and permission of the coordinator.*

AL3003 AMERICAN SIGN LANGUAGE III

Designed to be a continuation of American Sign Language II. Intended to refine and build American Sign Language (ASL) competence in and performance of most ASL grammatical features and ASL variations covered in previous courses. Receptive and expressive abilities enhanced through exposure to selected stylistic, regional, social, ethnic, socially restricted, and age-related ASL renditions. Additional ASL vocabulary will be covered through text analysis. Includes information on Deaf Culture. All lecture, laboratory activities and outside assignments focus on systematically integrating all materials covered in this and all prior courses. This class will be taught primarily in ASL. *One semester course; 4 credit hours; 3 class hours and 3 lab hours/week. Pre-requisite: American Sign Language II with a grade of C or better.*

AL3010 DEAF LITERATURE AND ASL FOLKLORE

Representative fiction, nonfiction, poetry, and drama depicted in readings and videotapes related to everyday lives of Deaf people. Develops insight and appreciation of Deaf literature and ASL folklore and their implications for education. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisites: AL1002 Introductory ASL II or comparable American Sign Language abilities.*

AL4003 AMERICAN SIGN LANGUAGE IV

A continuation of American Sign Language III. Further refines and builds American Sign Language (ASL) competence in and performance of all ASL grammatical features as well as ASL variations addressed in preceding ASL courses. Receptive and expressive abilities are enhanced through exposure to selected stylistic, regional, social, ethnic, socially restricted, and age-related ASL renditions, as well as additional ASL vocabulary which will be addressed through text analysis. Includes information on Deaf Culture. Taught primarily in ASL. *One semester course; 3 credit hours; 2 class hours and 2 lab hours/week. Pre-requisites: AL3003 American Sign Language III with a grade of C or better and permission of the coordinator.*

Banking

BK6601 PRINCIPLES OF BANKING

Survey of banking's relationship to the total economy and the functional relationships of departments within the bank. Develops the framework for more specialized study of the banking institution. *One semester course; 3 credit hours; 3 class hours/week.*

BK6611 MONEY AND BANKING

Practical aspects of money and banking; emphasis is placed on such problems as economic stabilization, types of spending, the role of gold, limitations of central bank control, government fiscal policy, balance of payments and foreign exchange showing their repercussions on the banking industry in affecting yield curves and the structuring of portfolios. *One semester course; 3 credit hours; 3 class hours/week.*

BK6622 REAL ESTATE FINANCE

Examination of mortgage credit in the U. S. and the structure of the mortgage market. An analysis of the management considerations in mortgage lending and portfolio management. *One semester course; 3 credit hours; 3 class hours/week.*

BK6623 CONSUMER LENDING

This course is designed to provide an overview of the consumer credit operation. It examines the role of consumer credit in overall banking operations and offers an improved understanding of the consumer credit function within a bank. *One semester course; 3 credit hours; 3 class hours/week.*

BK6650 FINANCIAL PLANNING

Examines comprehensive financial planning, cash flow management, investments, tax liability, future family needs and estate planning. *One semester course; 3 credit hours; 3 class hours/week.*

BK6651 ANALYZING FINANCIAL STATEMENTS

Basic consideration in financial statement analysis, basic financial ratios, analysis of working capital, and other items. *One semester course; 3 credit hours; 3 class hours/week.*

BK6652 LAW AND BANKING PRINCIPLES

This course is designed as an overview of the legal aspects of banking with special emphasis on the Uniform Commercial Code. Topics include up-to-date summaries of law pertaining to contracts, real estate, bankruptcy, and the legal implications of consumer lending. *One semester course; 3 credit hours; 3 class hours/week.*

BK6653 MARKETING FOR BANKERS

A study of the concepts and philosophies of marketing, information research and target together with the marketing mix, product strategy, distribution strategy, advertising and sales promotion and pricing strategy. *One semester course; 3 credit hours; 3 class hours/week.*

BK6654 LAW AND BANKING APPLICATIONS

This course is an introduction to laws pertaining to secured transactions, letters of credit and the bank collection process. Topics include check losses and legal issues related to processing checks, and secured transactions legal issues such as collateral, perfection and default. *One semester course; 3 credit hours; 3 class hours/week.*

BK6666 BRANCH BANKING SERIES

In this course, students will learn how to effectively use accepted management principles in the banking environment. The first part of the course is dedicated to retail management, the second to sales management and the third will emphasize financial performance of banks. *One semester course; 3 credit hours; 3 class hours/week.*

Biology

BI5510 HUMAN BIOLOGY

A basic study of the structure and functioning of the human body. Emphasis will be placed on the interrelationships among the systems. This course introduces the major biological principles through the study of the human body. *One semester course; 3 credit hours; 3 class hours/week.*

BI5515 INTRODUCTORY BIOLOGY I

A course dealing with the biological principles common to both plants and animals. These principles include the nature of chemical systems, cellular structure and functioning, genetics, ecology, and evolution. *One semester course; 4 credit hours; 3 class hours and 2 lab hours/week.*

BI5519 ANATOMY & PHYSIOLOGY I

The basic principles of biology are introduced. These are followed by an introduction to the study of the structure and functioning of the human body. Systems covered are: integumentary, skeletal, muscular and nervous. Emphasis will be placed on the interrelationships among the systems. Related topics such as diseases of the systems will be integrated where applicable. Laboratory work will include experiments, dissection, microscope work, and the study of charts and models. *One semester course; 4 credit hours; 3 class hours and 2 lab hours/week.*

BI5520 ANATOMY & PHYSIOLOGY II

A continuation of BI5519. Systems covered are: circulatory, endocrine, reproductive, urinary, digestive and respiratory. *One semester course; 4 credit hours; 3 class hours and 2 lab hours/week.*

BI5525 INTRODUCTORY BIOLOGY II

Continuation of BI5515 (Introductory Biology I) dealing with the evolution, structure, functioning, and taxonomy of the major groups of plants and animals. *One semester course; 4 credit hours; 3 class hours and 2 lab hours/week. Pre-requisite: BI5515 Intro. Biology I or permission of instructor.*

BI5530 FUNDAMENTALS OF DISEASE PROCESS

Topics include causes of disease, cellular injury, inflammatory processes, neoplasms, metabolic disorders, endocrine imbalances, disturbances in blood and body fluids, infectious diseases, physical and chemical injuries, hereditary diseases and congenital defects. A survey of the basic process of disease, types of medication, diagnostic measures and types of treatment will be discussed relating to the following systems: integumentary, musculoskeletal, nervous, cardiovascular, respiratory, gastrointestinal, genitourinary and organs of special sense (eye and ear). *One semester course; 3 credit hours; 3 class hours/week. Pre-requisites: BI5519/BI5520 Anatomy and Physiology I and II or permission of instructor.*

BI5540 HUMAN NUTRITION AND HEALTH

This course focuses on current eating practices and their effects on the overall health of the human body. Topics covered include the composition and function of the major food groups and vitamins, product label interpretation, and nutrition's role in disease and wellness. This course is specifically designed for the student interested in proper health maintenance. *One semester course; 3 credit hours; 3 class hours/week. (Note: This course may be taken alone as a 3 credit biology course OR in conjunction with BI5541 Human Nutrition and Health Laboratory, as a 4 credit biology course.)*

BI5541 HUMAN NUTRITION/HEALTH LABORATORY

The student will apply those theories and principles of nutrition and health learned in the classroom. Topics to be investigated include nutrient content of the food groups, water quality testing, nutrient intake and calorie calculations, basic exercise and stress reduction techniques. *One semester laboratory course; One semester laboratory course; 1 credit hour; 2 laboratory hours/week. Co-requisite: BI5540 Human Nutrition and Health.*

BI5553 MICROBIOLOGY

The biology of bacteria, viruses, and microorganisms is studied. Laboratory work emphasizes the sterile technique. Immunology and Biotechnology are discussed. *One semester course; 4 credit hours; 3 class hours and 3 lab hours/week Pre-requisite: One year of intro. biology at the college level or permission of the instructor.*

BI6010 SEMINAR IN BIOTECHNOLOGY

Discussion of topics related to employment in the biotechnology industry. Course involves a current review of scientific literature, guest and student presentation, process control and improvement techniques and coverage of job skills necessary for employment in the biotechnology industry. *One semester course; 1 credit hour; 1 class hour/week.*

BI6015 TECHNIQUES IN BIOTECHNOLOGY

A practical experience in a biotechnology laboratory. In this course the theory of techniques will be presented as well as providing a hands on learning experience. The focus will be on widely used techniques in the field such as DNA Technology, protein analysis, antibody techniques and ELISA (Enzyme Linked Immunosorbent Assay). *One semester course; 3 credit hours; 1 class hour and 4 lab hours/week. Pre-requisites: CH5503 Intro. Chemistry I, BI5515 Intro. Biology I, BI5553 Microbiology or permission of the instructor.*

BI6020 INTERNSHIP IN BIOTECHNOLOGY

Practical experience in a biotechnology lab. This experience is an opportunity to put into practice the theory and techniques acquired in the classroom. During this experience students are expected to keep a notebook on their experiences. Students develop lists of objectives to be accomplished during the work experience and will be evaluated by the worksite supervisor, the academic coordinator and the student at the end of the semester. On occasion off or on site student conferences may be scheduled. *One semester course; 1 credit hour; a minimum of 47 hours of volunteer/unpaid work is required per semester. Pre-requisite: Successful completion of the academic portion of the program and approval of the academic coordinator and the director of Co-op Education.*

BI6600 GENERAL BOTANY

Upper level biology course based on the study of plants. Lectures include gross and microscopic survey of plant anatomy from algae to the higher vascular plants noting the evolutionary trends, their economic relationship, and the fundamentals of physiology and morphology of the higher vascular plants. *One semester course; 4 credit hours; 3 class hours and 3 lab hours/week. Pre-requisite: Intro. Biology I or permission of the instructor.*

BI6605 GENERAL ZOOLOGY

An upper level biology course based on the study of animals. The lectures include a survey of major invertebrate and vertebrate animals with emphasis on their structure, adaptations, evolution and natural history. Laboratory work emphasizes identification and structural form of the major phyla of animals. *One semester course; 4 credit hours; 3 class hours and 3 lab hours/week. Pre-requisite: Intro. Biology I or permission of instructor.*

Business

BU1000 BUSINESS CAREER DEVELOPMENT SEMINAR

Designed to provide Field Experience students with the necessary skills to conduct a successful job search. Students will have the opportunity to analyze their interests and skills in relation to career types, develop a professional resume and participate in simulated interviews. Guest speakers, group discussions and video tapes will be emphasized. *One semester course; 1 credit hour; 1 class hour/week.*

BU4400 INTRODUCTION TO BUSINESS

This course will introduce students to the environment in which business is transacted in modern times as well as to major, functional areas of business. Its focus is upon timely issues and contemporary business problems. *One semester course; 3 credit hours; 3 class hours.*

BU4410 HEALTHCARE PRACTICE SEMINAR

Designed to study current strategic issues in Healthcare Practice Management that need to be addressed by Healthcare Practice Managers including: legal issues, regulations, environmental changes, health insurance, medical ethics, resource planning and contracts may be included. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: The student must be matriculated into the Business Management Healthcare Practice Management Program or permission of the instructor.*

BU4415 PRACTICE MANAGEMENT PRACTICUM

Designed to provide experiential opportunities for students planning a career in Healthcare Practice Management. The practicum experience will provide an opportunity to observe and be involved in the planning, monitoring and controlling an operation within a healthcare practice or similar health care operation. This experience will also provide an opportunity to integrate the knowledge and skill developed in other courses within the program. *One semester course; 3 credit hours; 1 class hour and 8 practicum hours/week. Corequisite: Healthcare Practice Management Seminar.*

BU4420 INTERNATIONAL BUSINESS

An overview of international business with emphasis on how international business transactions differ from domestic. International business transactions, practices and environments influencing these activities will be explained and illuminated through extensive case studies, including focus on ISO9000 quality standards. *One semester course; 3 credit hours; 3 class hours.*

BU4430 BUSINESS SOFTWARE INTEGRATION

Using the personal computer and state of the art software, the student will learn how to integrate word processing spreadsheet and presentation graphics. Using integrated software presentation graphics, provide attractive usable documents and presentation materials for today's automated office. Lab work outside of class hours will be required to complete assignments. Restricted to Business students. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisites: TW6640 Keyboarding I or equivalent and CT6630 Intro. to Personal Computers.*

BU4450 INTRODUCTION TO ENTREPRENEURSHIP

Introduction to the role of the entrepreneur and the disciplines and techniques necessary for success in starting a new business venture. Topics include entrepreneurial traits and instincts, setting personal goals, business planning, marketing, capitalization and financial planning; legal, tax, real estate and insurance considerations; small business assistance; government regulations and entrepreneurial career options. *One semester course; 3 credit hours; 3 class hours/week.*

Chemistry

CH4401 CHEMISTRY IN YOUR LIFE

This course will meet the four-credit natural science requirement of many associate degree programs. The course will be topic oriented. The students will study chemical topics including: nuclear reactions, energy from chemical reactions, water and its problems, chemistry of life, air pollution, drugs and medicines and other chemistry topics which are determined to be of use to the student. Some examples of the experiments would be: recycling aluminum from aluminum cans, dyeing material, determining the amount of vitamin C in orange juice, finding the acid and alkali content of some consumer products, and making soap and electroplating. *One semester course; 4 credit hours; 3 class hours and 2 lab hours/week.*

CH5501 GENERAL CHEMISTRY I

Deals with inorganic and physical chemistry. The study of the structure of atoms and the periodic nature of the elements. The examination of the relationship of energy and the elements to form compounds and the three physical states of matter will be investigated. *One semester course; 4 credit hours; 3 class hours and 3 lab hours/week. Pre-requisite: One year of high school chemistry and one year of precollege math.*

CH5502 GENERAL CHEMISTRY II

Continuation of General Chemistry I, dealing with physical and inorganic chemistry. The three physical states of matter: solid, liquid and gases will be studied. The mechanical, thermal and electrical changes as demonstrated in solution theory, electrochemistry, chemical kinetics and chemical equilibrium will be examined in detail. Brief introduction to organic chemistry is given. *One semester course; 4 credit hours; 3 class hours and 3 lab hours/week. Pre-requisite: CH5501.*

CH5503 INTRODUCTORY CHEMISTRY I

The course covers the basic understanding of atomic structure of the elements and periodic table. The study of chemical bonding, nomenclature, chemical equations, formula calculations and stoichiometry is undertaken. *One semester course; 4 credit hours; 3 class hours and 2 lab hours/week. Pre-requisite: A course in algebra.*

CH5504 INTRODUCTORY CHEMISTRY II: INORGANIC CHEMISTRY

Covers the study of solids, liquids, gases, solutions, acids, bases and neutralization. The application of physical chemical theory to inorganic chemistry. A brief review of organic chemistry is undertaken with special emphasis on how this aspect of chemistry relates to biological systems. *One semester course; 4 credit hours; 3 class hours and 2 lab hours/week. Pre-requisite: CH5503.*

Civil Technology

CE6653 STRENGTH OF MATERIALS

Designed to acquaint the student with the relationship between externally applied forces and the internally induced stresses in various types of structural members and parts, such as bolts, rivets, shafts, pressure tanks, beams and columns. Also covered is the relationship between the externally applied forces and the resulting deformations. Particular attention is given to beam bending, column loadings, tension in shafts, centroids and moments of inertias and combined stresses in structural elements. *One semester course; 4 credit hours; 3 class hours and 3 lab hours/week. Pre-requisite: CE6651 or equivalent.*

Computer & Information Sciences

CT3301 COMPUTER LITERACY FOR HEALTH PROFESSIONALS

This introductory course will focus on learning how to use the personal computer as a tool in the work environment. The topics will include the basic operating system commands (DOS), shared computer systems, word processing and medical information systems software. *One semester course; 1 credit hour; 2 lab hours/week*

CT3305 COMPUTER LITERACY OVERVIEW

This introductory course will give the student a broad overview on the ways in which the personal computer can be used as a tool in the work environment. The topics will include the basic operating system commands (DOS), word processing basics and a variety of software including tutorials. *One semester course; 1 credit hour; 2 lab hours/week.*

CT5501 PERSONAL COMPUTER MAINTENANCE & REPAIR

This introductory course will focus on learning how to setup, operate and maintain a personal computer. Students will gain practical hands-on experience in the following areas: installing software packages, expand computing power, preventative maintenance, diagnostic testing and peripheral interfacing. *One semester course; 3 credit hours; 2 lecture hours and 2 lab hours/week.*

CT6601 FUNDAMENTALS OF DIGITAL LOGIC

The mechanics of automatic computation including number systems, digital codes, logic gates, Boolean algebra, Karnaugh map simplification, combinational logic, sequential logic, adders, counters shift registers, etc. *One semester course; 3 credit hours; 3 class hours/week.*

CT6603 DIGITAL LOGIC LABORATORY

Proper interconnection of TTL integrated circuits. Experiments in digital logic circuits using gates, flipflops, counters, etc. *One semester course; 1 credit hour; 1 3-hour lab per week. Pre-requisite: Fundamentals of Digital Logic to be taken concurrently or previously.*

CT6620 PROGRAMMING I

An introduction to problem-solving methods and algorithm development for computer programming. Functional and design specification coding, testing and documentation are emphasized in the development of good programming techniques. Students should be aware that the level of abstract reasoning involved in this course mirrors that of a college level mathematics course. *One semester course; 4 credit hours; 3 class hours and 3 lab hours/week.*

CT6626 INTRODUCTION TO INFORMATION PROCESSING WITH BASIC

An introductory course focusing on fundamental concepts of information processing and programming in the BASIC language. Computer hardware (input, output, and storage devices), computer history, and computer systems are major topics. Considerable emphasis is placed on programming the computer as a means to understanding how a computer works. *One semester course; 4 credit hours; 3 class hours and 2 lab hours/week.*

CT6630 INTRO. TO PERSONAL COMPUTERS

This introductory course will focus on learning how to use a personal computer and the use of application software. Students will gain practical experience by using the personal computer for word processing, and the use of electronic spreadsheet, and data base management software. *One semester course; 3 credit hours; 2 class hours and 2 lab hours/week.*

CT6632 PERSONAL COMPUTER APPLICATIONS

This course will focus on using and managing a personal computer hard disk system. The disk operating systems (DOS), hard disk concepts, electronic spreadsheets with graphs, and database management software will be covered. Practical applications will be assigned using DOS, spreadsheets, database, and word-processing software. *One semester course; 3 credit hours; 2 class hours and 2 lab hours/week. Pre-requisite: CT6630 Introduction to Personal Computers or equivalent.*

CT6640 PROGRAMMING II

A continuation of CT6620 emphasizing the development of data structures to organize information in solving problems with computers. Typical structures include arrays, stacks, queues, linked lists, and trees. Laboratory projects will give students the opportunity to implement these data structures. *One semester course; 4 credit hours; 3 class hours and 3 lab hours/week. Pre-requisite: CT6620 Programming I or equivalent.*

CT6641 INTRODUCTION TO OPERATING SYSTEMS

An introduction to computer operating systems. Operating systems functions and theory will be covered for a variety of computers from microcomputers to mainframes. Operating system examples and laboratory work will be frequently updated to reflect rapid changes in the field. Other topics include multiuser systems, system use and management. *One semester course; 4 credit hours; 3 class hours and 3 lab hours/week. Pre-requisite: A programming language.*

CT6642 PC APPLICATION SUITES IN WINDOWS

This course will focus on application suites under the windows environment and the data file integration that is made possible between word processing, spreadsheet, database, and graphic files. Compound documents will be created that can include files from all the various application software. The efficient use of these data files for project report preparation and presentation will be the focus. *One semester course; 3 credit hours; 2 class hours and 2 lab hours/week. Pre-requisite: CT6630 Introduction to Personal Computers or equivalent.*

CT6645 INTRODUCTION TO COMPUTER NETWORKS

This course serves as an introduction to concepts in Computer Networks with some hands-on training in installing, configuring and managing a network. Different network topologies and transmission media will be covered as well as network operating system fundamentals. *One semester course; 3 credit hours; 2 class hours and 2 lab hours/week. Pre-requisite: CT5501 Personal Computer Maintenance & Repair.*

CT6646 COMPUTER NETWORKS II

A continuation of CT6645 Introduction to Computer Networks, this course is designed to give students the additional networking background needed to work with large local area networks (LANs). The course covers communications between computers, computer network theory, network administration, troubleshooting and methods of providing support and training to LAN users. Labs include hands-on experience managing a working LAN. *One semester course; 3 credit hours; 2 class hours and 2 lab hours/week. Pre-requisite: CT6645 Introduction to Computer Networks or permission of the instructor.*

CT6649 ASSEMBLY LANGUAGE PROGRAMMING

A thorough coverage of an instruction set and addressing techniques. Basics of machine organization/architecture along with programming concepts will be stressed. Topics include binary and BCD math, input/output techniques, user defined procedures, and the use of programming tools particularly a debugger. *One semester course; 4 credit hours; 3 class hours and 3 lab hours/week. Pre-requisite: CT6620 or the successful completion of another computer language.*

CT6654 THE INTERNET AND WEB PAGE DEVELOPMENT (HTML)

This course serves as an introduction to using and understanding the Internet and how corporate America conducts business on-line around the world. Topics will include how to design and create Web pages using the current markup languages (HTML), various Web page generators and image editors. Other topics will include Web browsers, search engines or sites, FTP, newsgroups, electronic mail including address books, distribution lists and attaching files. *One semester course; 3 credit hours; 2 class hours and 2 lab hours/week. Pre-requisite: CT6630 Introduction to Personal Computers or equivalent.*

CT6655 PROGRAMMING III

Continuation of CT6640 emphasizing file structures and design. This course covers the concepts, design considerations, and performance differences of file types from sequentially accessed files through relational databases. The file types are examined from the viewpoint of the operating system, the programmer, and system designer using a variety of standard design tools. *One semester course; 4 credit hours; 3 class hours and 2 lab hours/week. Pre-requisite: CT6640 Programming II or equivalent.*

CT6656 INTERNET LANGUAGES AND WEB AUTHORING TECHNIQUES I (JAVA SCRIPT)

An introduction to the design development of interactive software for the World Wide Web using the advanced features of markup languages (HTML) and client-side JavaScript. This course will review basic markup language (HTML) formatting and quickly move onto the advanced techniques for exploring the latest features in the markup (HTML) and JavaScript languages. This course will focus heavily on the use of client-side JavaScript for creating an interactive environment on the WWW. Students will design, develop, and maintain their own interactive Home Page using techniques learned in this course. Topics will include current markup languages (HTML), introduction to JavaScript and advanced JavaScript techniques. *One semester course; 4 credit hours; 3 class hours and 2 lab hours/week. Pre-requisites: CT6654 The Internet & Web Page Development (HTML) and CT6620 Programming I or equivalent.*

CT6657 INTERNET LANGUAGES AND WEB AUTHORING TECHNIQUES II (PERL)

This course continues on with the design development, and maintenance of interactive software for the World Wide Web with a strong focus on server-based programming. This course will present an overview on common Internet protocols and provide answers to the question "what makes the WWW tick." Emphasis will be placed on state-of-the-art, server-based software development tools that provide interactive browsing of the Web. Students will design, develop, and maintain interactive applications that are modeled after real-world problems. Course topics will include current markup Languages (HTML), CGI programming (Perl), Virtual Reality Markup Language (VRML), and Server-Side JavaScript. *One semester course; 4 credit hours; 3 class hours and 2 lab hours/week. Pre-requisites: CT6656 Internet Languages & Web Authoring Techniques I or equivalent.*

CT6665 VISUAL BASIC PROGRAMMING

An introduction to Visual Basic, an object-oriented/event-driven programming language for students with some programming experience. The student will learn to take advantage of the features Visual Basic has to offer, including the creation of window objects such as buttons and scroll bars. The course will include designing, planning, documenting, coding and debugging projects in Visual Basic. Topics covered are selection structures, repetition structures, both sequential and random files and arrays. The level of reasoning required in this course is similar to that required in a college level mathematics course. *One semester course; 4 credit hours; 3 class hours and 3 lab hours/week. Pre-requisites: CT6626 Introduction to Information Processing with BASIC and MA5501 Intermediate Algebra.*

CT6670 INTRODUCTION TO CAD/CAM

Introduction to Computer Aided Drafting and Design Systems and Computer Aided Manufacturing. It will cover the role of computers, robots, automated production, and humanistic approaches in manufacturing. Students will gain an understanding of the difficulties and challenges that lie on the path toward integration of computers into the manufacturing environment. *One semester course; 3 credit hours; 3 class hours/week.*

CT6672 COMPUTER AIDED DRAFTING

This course will prepare students to operate Computer Aided Drafting and Design systems and understand the use of computer graphics in industry applications. Students will learn to use an interactive computer. They will store and retrieve drawings and related information on a magnetic disk and produce commercial quality copies using a computer driven plotter. *One semester course; 3 credit hours; 1 class; hour and 4 lab hours/week. Pre-requisite: CT6670 Introduction to CAD/CAM and ET6600 Engineering Drafting or ET6601 Engineering Design Graphics.*

CT6681 ADVANCED DATABASE MANAGEMENT SOFTWARE

This course will focus on decision making using management information system software. Emphasis will be on Lotus 1-2-3, dBASE IV and/or other database management software. Software customizing techniques, macros, templates, data tables, program command files, and SQL commands will be covered. *One semester course; 4 credit hours; 3 class hours and 2 lab hours/week. Pre-requisite: CT6632 Personal Computer Applications or equivalent.*

CT6682 ENGINEERING COMPUTER APPLICATIONS

A course for engineering and technology students that covers the principles of computer operation and Fortran programming techniques. Personal computer application software tools will also be used to solve technical problems. *One semester course; 4 credit hours; 3 class hours and 3 lab hours/week. Pre-requisite: MA5621 concurrently.*

CT6683 COMPUTER SYSTEM TROUBLESHOOTING

Overview to the computer system including the architecture of a CPU and computer operations. A study is made of decoding and buffering circuits, memory interfacing and Input/Output interfacing both parallel and serial. These concepts are illustrated via the S-100 bus. Computer system fault analysis and troubleshooting techniques are also covered as are such tools as signature and logic analyzers. *One semester course; 4 credit hours; 3 class hours and 3 lab hours/week. Pre-requisite: ET6690 Microcomputers.*

CT6684 C PROGRAMMING LANGUAGE

General study of the C Programming Language. This study will include application programs for systems, business, science, and technical areas. It will relate to real time applications by illustrating the integration of assembly language routines within the C coded programs. The study will also include treatment of how C handles data types and declarations such as: char, int, unsigned, long and float; primaries like constants, variables, addresses, functions and structures; expressions using both unary and binary operators; statements including both expressions and control types and the various preprocessing functions. A major programming project will be required. *One semester course; 4 credit hours; 3 class hours and 3 laboratory hours/week. Pre-requisite: CT6649 Assembly Language Programming or ET6690 Microcomputers and a major programming language.*

Cooperative Education

CO4401 COOPERATIVE EDUCATION I

Co-Op Education is an experiential approach designed to provide training for students seeking to enter or reenter a career field. Students gain practical experiences that are related to their academic program and/or career goals subject to guidelines established by the appropriate academic department and the Office of Co-Op Education. Each student will be expected to participate in one or more workshops during the semester and write a final paper. Students develop a list of objectives to be accomplished during the semester and will be evaluated by the worksite supervisor, the academic coordinator and the student at the end of the semester. *One semester course; 3 credit hours; a minimum of 180 hours of work experience is required per semester. Pre-requisite: Prior approval of the Director of Co-Op Education and the academic coordinator responsible for the student's program.*

CO4402 COOPERATIVE EDUCATION II

A second course in Co-Op Education designed to provide students with additional off campus experiences related to their educational needs and career goals, subject to guidelines established by the appropriate academic department and the Office of Co-Op Education. Students will be expected to attend a series of workshops during the semester and write a final paper. Grade is based upon employer's academic evaluation of student growth, coordinator's evaluation of student performance and a self evaluation of work accomplished by the student. Students are expected to increase their responsibility over and above what was performed during CO4401 Co-Op Education I or CI4401 Career Internship I. *One semester course; 3 credit hours; a minimum of 180 hours of work experience is required per semester. Pre-requisite: Co-Op Education I or Career Internship I and prior approval of the Director of Co-Op Education and the academic coordinator responsible for the student's program.*

Criminal Justice

CJ3601 CONCEPTS OF CRIMINAL LAW

This course includes the classification of crime, definitions and elements of specific crimes, parties to a crime and defense of a crime, the substantive law of crimes, its historical development and philosophy. *One semester course; 3 credit hours; 3 class hours/week.*

CJ3603 INTRODUCTION TO CRIMINAL JUSTICE

Addresses the history, philosophy and function of the criminal justice system in America, and identifies the various subsystems and the role expectations of the system. Also provides an overview of crime, punishment and rehabilitation ethics, as well as the education and training for professionals in the system. *One semester course; 3 credit hours; 3 class hours/week.*

CJ3607 FUNCTIONS OF POLICE IN MODERN SOCIETY

The functions of police in contemporary society will be analyzed in their historical, sociological, and political context. Particular emphasis will be placed upon the conflicting role expectations facing the police in a democracy. Topics included will be community policing, report writing, police discretion, corruption, leadership, professionalism and other related topics. *One semester course; 3 credit hours; 3 class hours/week.*

CJ3608 INTRODUCTION TO CORRECTIONS

An introduction and overview of the fundamental processes, trends and practices of correctional institutions. Consideration is given to such concepts as institutional treatment, prisoner rights, community corrections, parole, pre-release centers, and government support of ex-offenders. *One semester course; 3 credit hours; 3 class hours/week.*

CJ3610 INTRODUCTION TO SECURITY

This course explores various concepts related to the term "security." Emphasis is placed on devising a systems approach to security analysis and implementation. The functions as well as resources of protective services are identified and analyzed. Consideration is given to all aspects of personnel as it relates to security as well as an overview of planning techniques. *One semester course; 3 credit hours; 3 class hours/week.*

CJ3667 CRISIS INTERVENTION IN THE CRIMINAL JUSTICE SYSTEM

Application of crisis theory, management of interpersonal conflict and use of effective techniques of crisis intervention in Criminal Justice. Specific crisis situations frequently encountered are considered, including, but not limited to, family disputes, rape, child abuse, potential suicide, domestic abuse, hostage situations, and terrorism. *One semester course; 3 credit hours; 3 class hours/week.*

CJ3670 SENIOR SEMINAR/PROJECT

This course will be taught as a seminar focusing upon special issues in criminal justice, with a primary emphasis on completion of a major project to include a portfolio and/or a major paper which will involve an analysis of an agency within the context of concepts addressed in the Criminal Justice Program and the relevant work experience of the student. It may also be taught as a tutorial with the same individual focus. *One semester course; 3 credit hours; 3 class hours/week.*

CJ3672 FIELD PRACTICUM EXPERIENCE

Course for preservice students. Planned program of observation in selected criminal justice agencies representing the major components of the system. The student will select an agency provided by the coordinator and assist in activities deemed appropriate by the agency. Students shall be required to maintain a journal as specified by the course instructor/field supervisor. *One semester course; 3 credit hours; 1 class hour and 8 practicum hours/week. Pre-requisite: Full-time enrollment in the Criminal Justice Program. Students generally must be in their fourth semester.*

Dental Assistant

DA0101 DENTAL ASSISTING I

This course addresses the fundamental principles and skill of the chairside dental assistant working in a general dentistry setting; introduces the dental assisting process in areas of four handed dentistry, infection control and the dental materials used by the restorative dentist. The course provides an overview of the specialties of oral and maxillofacial surgery, orthodontics and endodontics and integrates the laboratory and classroom components to provide students with both theory and actual clinical experience. *One semester course; 9 credit hours; 6 class hours and 9 lab hours/week. Pre-requisite: Enrollment into the Dental Assistant program or permission of the program coordinator.*

DA0130 DENTAL RADIOLOGY I

This course is designed to examine the theoretical aspects of radiation production, safety, biological effects, paralleling, exposure technique, darkroom processing, film mounting and radiographic interpretation. Proficiency in radiographic technique will be accomplished on a manikin. *One semester course; 2 credit hours; 1 class hour and 3 lab hours/week. Pre-requisite: Enrollment in the Dental Assistant Program or permission of the program coordinator.*

DA0135 DENTAL SCIENCE

Describes the development, form and function and diseases of the oral cavity by examining oral anatomy, histology, embryology, head and neck anatomy, pathology and pharmacology. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: Enrollment in the Dental Assistant Program or permission of the program coordinator.*

DA0202 DENTAL ASSISTING II

A continuation of Dental Assisting I. Describes the fundamental principles and chairside skills in the areas of nutrition counseling, preventive plaque control and in the specialties of periodontics, prosthodontics and pediatric dentistry as well as techniques to assist with the management of medical and dental emergencies. *One semester course; 4 credit hours; 2 class hours and 4 lab hours/week. Pre-requisite: Dental Assisting I with a grade of C or better.*

DA0250 DENTAL RADIOLOGY II

This course is a continuation of Dental Radiology I. The bisecting angle technique of exposing dental films will be studied. Proper radiographic technique will be developed on a manikin prior to exposing radiographic on patients. *An 8-week course; 1 credit hour; 4 lab hours/week. Pre-requisite: Dental Radiology I with a grade of C or better.*

DA0275 DENTAL SEMINAR

Provides the student with an opportunity to analyze dental assisting procedures, patient care in the dental office and practicum experiences, and to hear scheduled guest lecturers from the dental community. *An 8-week course; 1 credit hour; 2 class hours/week. Pre-requisite: A grade of C or better in all Dental Assistant courses.*

DA0280 DENTAL ASSISTING PRACTICUM

This course requires a minimum of 300 hours of clinical experience in various dental offices where the student will perform chairside dental skills under the supervision of the dentists and their staff. Students will be assigned on a rotational basis with emphasis on general dentistry. Liaison with the students and the dental offices is maintained by the Coordinator of the Dental Assistant Program. *One semester course; 5 credit hours; 20 practicum hours/week. Pre-requisite: A grade of C or better in all Dental Assistant courses prior to practicum assignment.*

Early Childhood Education

Note: All courses prefaced CC are restricted to students accepted and enrolled in the Early Childhood Education program. Other students may elect these courses only with the permission of the Early Childhood Education program coordinator.

CC2201 INTRODUCTION TO EARLY CHILDHOOD EDUCATION

Provides the student with an understanding of the child's experience in the school as it relates to his/her total development. It raises particular problems associated with curriculum planning and helps to develop criteria for evaluating a program for young children. *One semester course; 3 credit hours; 3 class hours/week.*

CC2230 EARLY CHILDHOOD EDUCATION: THEORY AND PRACTICE

Provides the student with an understanding of the child's experience in the school as it relates to his/her total development. It raises particular problems associated with curriculum planning and helps to develop criteria for evaluating a program for young children. The course will examine the historical development of early childhood education programs and services, the present prototypes and the universal elements contained in good programs. Defined areas of child behavior in varied educational settings will be observed and recorded. *One semester course; 4 credit hours; 3 class hours/week and 3 laboratory hours/week in varied educational settings.*

CC2233 PLANNING PROGRAMS AND ENVIRONMENTS FOR YOUNG CHILDREN

Examines the environments and programs planned for young children and helps students to develop the skills necessary to create environments which promote growth and provide for the needs of young children. Goals of the program, interest centers and the development of positive management techniques for working with children both individually and in groups are stressed. *One semester course; 3 credit hours; 3 class hours/week.*

CC2236 LEARNING ENVIRONMENTS FOR INFANTS AND TODDLERS

Focus on the unique requirements of caring for infants and toddlers in group settings. Addresses the criteria as advocated by the National Association for the Education of Young Children. Course content explores quality care for this age group, discusses growth and development of infants and toddlers, and helps participants develop concrete curriculum activities. Other topics addressed are appropriate equipment, safety issues, observation techniques and problem areas in infant/toddler relations. *One semester course; 3 credit hours; 3 class hours/week.*

CC2240 EXPRESSIVE LEARNING ACTIVITIES IN EARLY CHILDHOOD CURRICULUM

This course explores the role of creative expression as a learning tool in the social, emotional and cognitive development of the young child. Students will gain an understanding of how to plan and implement activities that integrate the arts of music, movement, poetry, and dramatic play into the early childhood curriculum. A variety of manipulative materials will be explored as emphasis will be placed on designing appropriate learning activities for the young child. This course will also introduce the student to the use of audio-visual media used in the early childhood classroom. *One semester course; 3 credit hours; 3 class hours/week.*

CC2244 ENHANCING CREATIVITY IN EARLY CHILDHOOD CURRICULUM

Designed to aid the teacher of young children in planning developmentally appropriate art activities in the early childhood curriculum. The course is structured so that students work both individually and in groups in order to explore curriculum concepts and personal ideas through the use of art materials. Emphasis is placed on spontaneity, flexibility and invention in the ability to develop materials and activities appropriate to the age, developmental level and special needs of the young child. *One semester course; 3 credit hours; 3 class hours/week.*

CC2245 LANGUAGE AND READING DEVELOPMENT IN EARLY CHILDHOOD

An imaginative and creative approach to teaching readiness skills through literature for the preprimary child. Behavioral characteristics of young children and their implications relating to books will be the focus of the course. Picture books, storytelling, folk tales, fantasy, puppetry, dramakinetics, reading aloud, oral language development along with guidelines for assisting the child in becoming more ready for beginning reading instruction will be explored and demonstrated. This course is directed primarily to anyone who is or who seeks to work with the pre-school child. *One semester course; 3 credit hours; 3 class hours/week.*

CC2250 PRESCHOOL CURRICULUM

Designed to aid the teacher of young children in planning a developmentally appropriate integrated curriculum for the early childhood classroom. It will look at the child's cognitive growth and development and how it is enhanced through math, social studies and language. Students will be exposed to designing learning environments which enhance the growth and development of the whole child and which respects individual differences in children's growth. *One semester course; 3 credit hours; 3 class hours/week.*

CC2260 MATH/SCIENCE FOR EARLY CHILDHOOD CURRICULUM

Students are introduced to the content and methods of teaching math and science in Early Childhood and are helped to develop skills in planning and presenting lessons in these areas and to develop appropriate methods for introducing these content areas into the curriculum. Emphasis will be given to concrete activities and materials which promote activities among children. *One semester course; 3 credit hours; 3 class hours/week.*

CC2264 SEMINAR IN PHILOSOPHY OF EARLY CHILDHOOD EDUCATION

Students are given the opportunity to summarize and analyze their understanding of the theories and practices in early childhood education and the role of the professional in this field. An informal lecture/discussion format allows for analysis of practicum experience as well as for community resource guest lecturers and independent research. *One semester course; 3 credit hours; 3 class hours/week.*

CC2312 EARLY CHILDHOOD EDUCATION PRACTICUM I

Under the guidance and supervision of the cooperating teacher, skills and concepts of child growth, development and learning acquired in CC2230 Early Childhood Education: Theory and Practice or CC2201 Introduction to Early Childhood Education P and CC2244 Enhancing Creativity in Early Childhood Curriculum will be applied by the student in selected practicum placements. *One semester course; 3 credit hours; 1 class hour and 8 practicum hours/week. Pre-requisites: CC2230 or CC2201 and CC2244 and PS1151 which must be taken previously or simultaneously.*

CC2353 EARLY CHILDHOOD EDUCATION PRACTICUM II

The student will be actively involved in the varied activities which constitute the curriculum of early childhood education classrooms and educational programs. Under the supervision of a cooperating teacher, the student will become more familiar with the role and responsibilities of the professional in early childhood education settings. *One semester course; 4 credit hours; 1 class hour and 12 practicum hours/week. Pre-requisite: CC2312.*

CC2354 EARLY CHILDHOOD EDUCATION PRACTICUM III

Sixteen hours of experience in the early childhood classroom or educational program allows the student both greater involvement in the program and an increased familiarity with the role and responsibilities of the early childhood education professional. *One semester course; 4 credit hours; 16 practicum hours/week. Pre-requisites: CC2312, CC2353.*

CC2450 CHILD CARE ADMINISTRATION

Designed for the director or lead teacher who needs to enhance their administrative skills. Course content will include information related to the responsibilities of the child care director, leadership styles, financial management, personnel management, licensing regulations and a study of both state and national day care legislation. Particular attention will be focused on the role of the administrator in developing and implementing both evaluation and staff development strategies for child care staff, which serve to strengthen performance as well as administrative/staff relations. *One semester course; 3 credit hours; 3 class hours/week.*

Earth Science

ES5010 EARTH SCIENCE

A survey of the earth sciences. This course will examine various earth systems and processes including the earth as a planet, the atmosphere and weather, the oceans, the solid earth and its minerals, and such processes as volcanism, weathering, glaciation, erosion and tectonics. This course should not be taken by students who have had Physical Geology or Meteorology, *One semester course; 3 credit hours; 3 class hours/week.*

ES5501 METEOROLOGY

A basic study of the elements which constitute weather: temperature, pressure, winds, humidity and precipitation. Further study includes weather data analysis and forecasting, and the relationships between weather and climate. *One semester course; 4 credit hours; 3 class hours and 2 lab hours/week.*

ES5502 PHYSICAL GEOLOGY

Introduction to landforms and the processes of their formation: erosion by wind, water, ice, beaches and wave action. Further study is accomplished through the use of topographic maps. Additional topics include descriptions of basic rocks and minerals, volcanism, mountain building and crustal movement. *One semester course; 4 credit hours; 3 class hours and 2 lab hours/week.*

Economics

EC3322 MICRO ECONOMICS

Introduction to micro economics. This semester centers upon the functioning of individual markets and their effectiveness for resource allocation. Includes price and production theory, the distribution of income, and the theory of household behavior. *One semester course; 3 credit hours; 3 class hours/week.*

EC3323 MACRO ECONOMICS

Introduction to macro economic analysis and policy. Examination of the foundation and nature of economic principles as they apply to national output, money and banking and monetary and fiscal policy. Course also focuses on problems of employment, inflation and economic growth as illuminated by modern national income analysis. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: EC3322.*

EC3652 SURVEY OF ECONOMICS

A nontechnical survey of current economic problems. Background of economic concepts and terminology. Some focus on comparative economic systems. Not recommended for transfer students. *One semester course; 3 credit hours; 3 class hours/week.*

Education

ED2310 INTRODUCTION TO TEACHING

This seminar is designed for students to explore the possibility of education, particularly teaching, as a career. Through course work and field experiences students will be exposed to the diversity of educational settings and develop an understanding of the interconnections among the different sectors of education. The historical, philosophical, social and methodological aspects of learning and teaching will be unifying themes throughout the course. *One semester course; 4 credit hours; 3 class hours and 6 field experience hours/week.*

ED2320 ISSUES AND TRENDS IN EDUCATION

Participants in this course will explore current issues in the field of education and discover popular trends in curriculum content and teaching practices. Students will also discover how society influences both the role of schools and how classrooms function. Issues and trends will be examined and evaluated from the point of view of the learner, teacher, administrator and parent. *One semester course; 3 credit hours; 3 class hours. ED2321 Issues and Trends in Education: Practicum may be taken simultaneously with this course.*

ED2321 ISSUES AND TRENDS IN EDUCATION: PRACTICUM

Participants will spend 4 or more hours a week at a field placement site where they will observe classroom activities and better develop their understanding of the teaching profession. Students will be supervised by a mentor teacher in the field site but will report back to the instructor and share their experiences with fellow students. *One semester course; 1 credit hour; 4 practicum hours/week. Pre-requisite/Corequisite: ED2320 Issues and Trends in Education.*

Electronics

ET6010 INTRODUCTION TO MEDICAL ELECTRONICS AND CLINICAL SAFETY

Includes an overview of biomedical technology, the overview of clinical safety, principles of medical transducers and medical equipment applications. Safety standards prescribed by hospitals/clinics and medical offices will be discussed and observed. *One credit course; 1 class hour/week.*

ET6030 FUNDAMENTALS OF MEDICAL ELECTRONICS

Basic electronics essential to understanding of medical electronics equipment. Included are transducers, diodes, semiconductors, amplifiers, operational amplifiers, differential amplifiers and instrumentation amplifiers. *One semester course; 4 credit hours; 3 class hours and 3 lab hours/week. This course is not open to students who have completed ET6672 Electronics I.*

ET6040 MEDICAL ELECTRONICS SYSTEMS TROUBLESHOOTING

Includes hands-on laboratory training in troubleshooting techniques and repair approaches for common medical equipment used to monitor blood pressure, cardiac function, pulmonary function, EEG, etc. *One semester course; 3 credit hours; 2 class hours and 2 lab hours/week. Pre-requisites: ET6010 and ET6030.*

ET6600 ENGINEERING DRAFTING

The application of the basic skills needed to make and read sketches and drawings. Students will use drafting instruments and will learn to perform the operations of the trade including the inspection of the completed work. The course will include lettering, sketching, and dimensioning with applications in sectioning and views of primary and secondary engineering drawings. *One semester course; 3 credit hours; 1 class hour and 4 lab hours/week.*

ET6601 ENGINEERING DESIGN GRAPHICS

Stresses communication by graphical or pictorial means. Lettering, graphics sketching, orthographic projection, auxiliary views, dimensioning and descriptive geometry principles are topics covered. Neatness is emphasized throughout. An introduction to menu driven CAD is included. *One semester course; 2 credit hours; 1 class hour and 2 lab hours/week.*

ET6611 CIRCUIT ANALYSIS I

Introduction to the analysis of electric circuits using DC sources. Applications of Kirchhoff's Voltage and Current Laws, superposition, loop analysis, nodal analysis and Thevenin's Theorem. *One semester course; 4 credit hours; 3 class hours and 3 lab hours/week. Pre-requisite: MA5621 to be taken concurrently or previously.*

ET6612 CIRCUIT ANALYSIS II

Extension of the theorems developed in ET6611 as they apply to circuits excited by sinusoidal sources. Energy considerations, storage of energy, RMS calculations, determinant solutions, resonance and transformers. *One semester course; 4 credit hours; 3 class hours and 3 lab hours/week. Pre-requisites: ET6611 and MA5621.*

ET6645 ROBOTICS

A course in robot fundamentals. History of development of modern robots and their applications; mechanical aspects of manipulators and end effectors; electrical, hydraulic and pneumatic drives; sensors; computer control; robot software; vision systems. Also includes social, psychological and economic effects of robotics. *One semester course; 4 credit hours; 2 lecture hours and 6 lab hours/week. Pre-requisite: ET6690 Microcomputers, may be taken concurrently.*

ET6651 ENGINEERING MECHANICS I—STATICS

Development of fundamental concepts of mechanics such as vectors, forces and moments. Detailed treatment of free body diagrams and their application to force systems. Laws of static equilibrium, friction forces, first and second moments, and problems involving various structures and machine parts. Methods of solution will include vector analysis, matrix methods and computer-aided analysis. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisites: PI5623 and MA5692 or equivalent. MA5692 may be taken concurrently.*

ET6652 ENGINEERING MECHANICS II—DYNAMICS

Basic laws of kinematics of particles and rigid bodies involving linear, angular, relative and absolute motion. Newton's Laws and their application to the kinematics of rigid bodies in translation, rotation and plane motion; and the principles of work, kinetic energy, impulse and momentum. Methods of solution will include vector analysis, matrix methods and computer-aided analysis. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: ET6651.*

ET6661 NETWORKS I

Introduction to general network solutions employing mathematical models and topology, the study of circuit analysis employing Kirchhoff's laws, Thevenin's Theorem, Norton's Theorem, superposition and maximum power theorems, is emphasized. *One semester course; 5 credit hours; 4 class hours and 4 lab hours/week. Pre-requisite: MA5693 to be taken concurrently or previously.*

ET6662 NETWORKS II

Sinusoidal analysis of circuits employing phasor analysis. Sinusoidal steady state response found by nodal, mesh, superposition, source transformations. Thevenin's Theorem and phasor diagrams are explained. RMS values and average power and complex power is studied in detail. Major emphasis is placed on analysis using complex frequency (S-Plane). This would include frequency response of RL, RC, and RLC circuits (including resonance). The remainder of the course deals with two port network parameters and Fourier series analysis. *One semester course; 5 credit hours; 4 class hours and 3 lab hours/week. Pre-requisites: ET6661, MA5685 concurrently.*

ET6672 ELECTRONICS I

First course beginning with introductory semiconductor physics and semiconductor devices. Biasing and stability of devices and small signal models of same. Applications of semiconductors in rectifiers and amplifiers. Field effect transistors. *One semester course; 5 credit hours; 4 class hours and 1 3-hour lab per week. Pre-requisites: ET6611, ET6612 concurrently.*

ET6673 ELECTRONICS II

Analysis of the behavior of multistage amplifiers, power amplifiers, tuned circuit amplifiers, feedback amplifiers and oscillators. Integrated circuits, including differential and operational amplifiers and voltage regulators. *One semester course; 5 credit hours; 4 class hours and 1 3-hour lab per week. Pre-requisite: ET6672.*

ET6682 DIGITAL ELECTRONICS

Study of traditional logic design as well as newer techniques utilizing MSI and LSI. Both combinational logic and sequential logic are covered including registers and counters. Also includes an introduction to memory and programmed logic. *One semester course; 4 credit hours; 3 class hours and 1 3-hour lab per week. Pre-requisites: ET6612, ET6672, CT6601.*

ET6683 DIGITAL COMMUNICATIONS

A continuation of Digital Electronics with emphasis on digital communication techniques including modulation methods, modems and local area networks. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: ET6682 Digital Electronics.*

ET6684 ELECTRONIC COMMUNICATION SYSTEMS

Types and characteristics of electronic systems, such as amplitude modulation, frequency modulation and single-side-band. Receivers, transmitters and their system components including phase locked loops, tuned amplifiers, modulators and demodulators. *One semester course; 4 credit hours; 3 class hours and 1 3-hour lab per week. Pre-requisites: ET6612, ET6672.*

ET6690 MICROCOMPUTERS

Introduction to microprocessors including basics of the CPU, timing and addressing instruction sets, assembly language programming, memory, input/output techniques, interfacing. *One semester course; 4 credit hours; 3 class hours and 3 lab hours/week. Pre-requisite: CT6601.*

English

EN0211 ESL CORE ENGLISH I

Introduction to American English for non-English speakers. Develops base for further language training, including the ability to handle simple questions and answers within a limited range of basic topics. This is a developmental course and does not carry graduation credit. It is not usually transferable. Since this is a mandated course, students who do not meet the exit criteria will be required to repeat this course. *One semester course; 8 credit hours; 12 contact hours/week. Pre-requisite: ESL Oral Test.*

EN0212 ESL CORE ENGLISH II

Second level structure course for non-native speakers of English. Includes mastery and integration of introductory grammar sequence and basic vocabulary. This is a developmental course and does not carry graduation credit. It is not usually transferable. Since this is a mandated course, students who do not meet the exit criteria will be required to repeat this course. *One semester course; 8 credit hours; 12 contact hours/week. Pre-requisite: ESL Grammar/Writing Test.*

EN0213 ESL CORE ENGLISH III

Third level structure course for non-native speakers of English. Includes review and integration of major English tenses and development of core vocabulary. This is a developmental course and does not carry graduation credit. It is not usually transferable. Since this is a mandated course, students who do not meet the exit criteria will be required to repeat this course. *One semester course; 8 credit hours; 12 contact hours/week. Pre-requisite: ESL Grammar/Writing Test.*

EN0214 ESL CORE ENGLISH IV

Fourth level structure course for non-native speakers of English. Includes introduction to clause-structure grammar and practice integrating core vocabulary into complex sentences. This is a developmental course and does not carry graduation credit. It is not usually transferable. Since this is a mandated course, students who do not meet the exit criteria will be required to repeat this course. *One semester course; 8 credit hours; 12 contact hours/week. Pre-requisite: ESL Grammar/Writing Test.*

EN0215 ESL ACADEMIC ENGLISH I

Development of academic vocabulary and usage for college writing and speaking. For non-native speakers of English. Includes analysis of syntax and vocabulary in context, and techniques for writing about readings. Since this is a mandated course, students who do not meet the exit criteria will be required to repeat this course. *One semester course; 4 credit hours; 6 contact hours/week. Pre-requisites: ESL Grammar/Writing and Oral Tests.*

EN0216 ESL ACADEMIC ENGLISH II

Integration of academic vocabulary and usage in college reading, writing, and speaking. Includes analysis of and writing about readings and study of derived word forms. Since this is a mandated course, students who do not meet the exit criteria will be required to repeat this course. *One semester course; 4 credit hours; 6 contact hours/week. Pre-requisite: Grammar/Writing Tests.*

EN0217 SPANISH/ENGLISH TRANSLATION

Written translation between Spanish and English (emphasis given from Spanish to English). Clarification of vocabulary and structures through contrastive translations. Material will come from current publications, textbooks, reference grammars, and dictionaries. Strongly recommended for all ESL students and former ESL students whose language is Spanish. Others may enroll with permission of the instructor. *One semester course; 4 credit hours; 2 class hours, 4 lab hours/week. Pre-requisite: EN0214 ESL Core English IV for students whose native language is Spanish.*

EN0221 ESL READING I

Reading in English for beginners who are non-native speakers of English. Includes introduction to English graphemes and basic English phonics, and builds a reading vocabulary of 500 to 800 basic English words. This is a developmental course and does not carry graduation credit. It is not usually transferable. Since this is a mandated course, students who do not meet the exit criteria will be required to repeat this course. *One semester course; 4 credit hours; 6 contact hours/week. Pre-requisite: ESL Reading Test.*

EN0222 ESL READING II

Second level reading course for non-native speakers of English. Includes comprehension of vocabulary in context, English phonics, dictionary skills, inflected forms, and individualized reading practice. This is a developmental course and does not carry graduation credit. It is not usually transferable. Since this is a mandated course, students who do not meet the exit criteria will be required to repeat this course. *One semester course; 4 credit hours; 6 contact hours/week. Pre-requisite: ESL Reading Test.*

EN0223 ESL READING III

Third level reading course for non-native speakers of English. Includes study of prefixes and suffixes, dictionary skills, comprehension of vocabulary in context, and development of reading fluency through individualized reading assignments. This is a developmental course and does not carry graduation credit. It is not usually transferable. Since this is a mandated course, students who do not meet the exit criteria will be required to repeat this course. *One semester course; 4 credit hours; 6 contact hours/week. Pre-requisite: ESL Reading Test.*

EN0224 ESL READING IV

Fourth level reading course for non-native speakers of English. Includes study of word formation, dictionary skills, development of academic study skills, comprehension of general vocabulary in context, and development of reading fluency through individualized assignments. This is a developmental course and does not carry graduation credit. It is not usually transferable. Since this is a mandated course, students who do not meet the exit criteria will be required to repeat this course. *One semester course; 4 credit hours; 6 contact hours/week. Pre-requisite: ESL Reading Test.*

EN0225 ESL ACADEMIC READING

Highest level reading course for non-native speakers of English. Includes academic vocabulary in context, word analysis, dictionary skills, and development of reading fluency through individualized reading assignments. Since this is a mandated course, students who do not meet the exit criteria will be required to repeat this course. *One semester course; 4 credit hours; 6 contact hours/week. Pre-requisite: ESL Reading Test.*

EN0231 ESL COMMUNICATION I

Phonology course for beginners who are non-English-speakers. Develops fundamental listening and pronunciation skills. This is a developmental course and does not carry graduation credit. It is not usually transferable. Since this is a mandated course, students who do not meet the exit criteria will be required to repeat this course. *One semester course; 4 credit hours; 6 contact hours/week. Pre-requisite: ESL Oral Test.*

EN0232 ESL COMMUNICATION II

Second level communication course for non-native speakers of English. Develops basic communication skills in speaking and writing. This is a developmental course and does not carry graduation credit. It is not usually transferable. Since this is a mandated course, students who do not meet the exit criteria will be required to repeat this course. *One semester course; 4 credit hours; 6 contact hours/week. Pre-requisites: ESL Oral Test and Writing Sample.*

EN0233 ESL COMMUNICATION III

Third level communication course for non-native speakers of English. Develops general conversation and writing skills using topical vocabulary. Writing skills include outlining and composition organization. This is a developmental course and does not carry graduation credit. It is not usually transferable. Since this is a mandated course, students who do not meet the exit criteria will be required to repeat this course. *One semester course; 4 credit hours; 6 contact hours/week. Pre-requisites: ESL Oral Test and Writing Sample.*

EN0234 ESL COMMUNICATION IV

Fourth level communication course for non-native speakers of English. Develops academic listening, speaking, and writing skills using general academic vocabulary and situations. This is a developmental course and does not carry graduation credit. It is not usually transferable. Since this is a mandated course, students who do not meet the exit criteria will be required to repeat this course. *One semester course; 4 credit hours; 6 contact hours/week. Pre-requisites: ESL Oral Test and Writing Sample.*

EN0235 ESL PRONUNCIATION

Drill and practice around a systematic presentation from an articulatory point of view of American English pronunciation. Includes phonemes, allophones, linking, liaison, and major reduction patterns. Required of all ESL students who are above EN0232 ESL Communication II, but whose "Pronunciation" is a "2" or lower on the "ALIGU" Oral Rating Form (American Language Institute, Georgetown University). This is a developmental course and does not carry graduation credit. It is not usually transferable. Since this is a mandated course, for those who need it, students who do not meet the exit criteria will be required to repeat this course. *One semester course; 4 credit hours; 2 class hours, 4 lab hours/week. Pre-requisite: a "C" or better in EN0232 ESL Communication II or a test.*

EN0251 ESL CORE ENGLISH IA

Includes first half of Introduction to American English for non English speakers. Develops base for further language training, including the ability to handle simple questions and answers within a limited range of basic topics. This is a developmental course and does not carry graduation credit. It is not usually transferable. Since this is a mandated course, students who do not meet the exit criteria will be required to repeat this course. *One semester course; 4 credit hours; 6 contact hours/week. Pre-requisite: ESL Oral Test.*

EN0252 ESL CORE ENGLISH IB

Includes second half of Introduction to American English for nonEnglish speakers. Develops base for further language training, including the ability to handle simple questions and answers within a limited range of basic topics. This is a developmental course and does not carry graduation credit. It is not usually transferable. Since this is a mandated course, students who do not meet the exit criteria will be required to repeat this course. *One semester course; 4 credit hours; 6 contact hours/week. Pre-requisite: ESL Oral Test.*

EN0253 ESL CORE ENGLISH IIA

First half of second level structure course for non-native speakers of English. Includes mastery and integration of introductory grammar sequence and basic vocabulary. This is a developmental course and does not carry graduation credit. It is not usually transferable. Since this is a mandated course, students who do not meet the exit criteria will be required to repeat this course. *One semester course; 4 credit hours; 6 contact hours/week. Pre-requisite: ESL Grammar/Writing Test.*

EN0254 ESL CORE ENGLISH IIB

Second half of second level structure course for non-native speakers of English. Includes mastery and integration of introductory grammar sequence and basic vocabulary. This is a developmental course and does not carry graduation credit. It is not usually transferable. Since this is a mandated course, students who do not meet the exit criteria will be required to repeat this course. *One semester course; 4 credit hours; 6 contact hours/week. Pre-requisite: ESL Grammar/Writing Test.*

EN0255 ESL CORE ENGLISH IIIA

First half of third level structure course for non-native speakers of English. Includes review and integration of major English tenses and development of core vocabulary. This is a developmental course and does not carry graduation credit. It is not usually transferable. Since this is a mandated course, students who do not meet the exit criteria will be required to repeat this course. *One semester course; 4 credit hours; 6 contact hours/week. Pre-requisite: ESL Grammar/Writing Test.*

EN0256 ESL CORE ENGLISH IIIB

Second half of third level structure course for non-native speakers of English. Includes review and integration of major English tenses and development of core vocabulary. This is a developmental course and does not carry graduation credit. It is not usually transferable. Since this is a mandated course, students who do not meet the exit criteria will be required to repeat this course. *One semester course; 4 credit hours; 6 contact hours/week. Pre-requisite: ESL Grammar/Writing Test.*

EN0257 ESL CORE ENGLISH IVA

First half of fourth level structure course for non-native speakers of English. Includes introduction to clause-structure grammar and practice integrating core vocabulary into complex sentences. This is a developmental course and does not carry graduation credit. It is not usually transferable. Since this is a mandated course, students who do not meet the exit criteria will be required to repeat this course. *One semester course; 4 credit hours; 6 contact hours/week. Pre-requisite: ESL Grammar/Writing Test.*

EN0258 ESL CORE ENGLISH IVB

Second half of fourth level structure course for non-native speakers of English. Includes introduction to clause-structure grammar and practice integrating core vocabulary into complex sentences. This is a developmental course and does not carry graduation credit. It is not usually transferable. Since this is a mandated course, students who do not meet the exit criteria will be required to repeat this course. *One semester course; 4 credit hours; 6 contact hours/week. Pre-requisite: ESL Grammar/Writing Test.*

EN0400 BASIC READING

Designed to help students improve their basic reading skills. Through group and individualized instruction, the course helps the student develop the skills, habits and attitudes that will result in more effective reading. Topics include word analysis, vocabulary development, comprehension techniques and study skills. Instructional materials are at an appropriate level. Much attention is given to the development of individualized skills in the Reading Center and for this reason pre and post-diagnostic tests are given. This course is considered a developmental course and does not carry graduation credit. It is not usually transferable. Since this is a mandated course, students who do not meet the exit criteria will be required to repeat this course. Basic Reading must be followed by College Reading to complete the developmental reading sequence. *One semester course; 3 credit hours; 2 class hours and 2 lab hours/week.*

EN0401 COLLEGE READING

This course is designed to meet a variety of more advanced reading and study skill needs, primarily the need to read college level materials more effectively. Students learn to recognize main ideas, to read an article or chapter and remember its key points, to take inclusive, meaningful notes, to read actively and critically, to explore memory techniques and to respond to our language with greater vocabulary depth. This course is considered a developmental course and does not carry graduation credit. It is not usually transferrable. Students who do not achieve a grade of C- or better will be required to repeat this course. *Pre-requisite: Satisfactory completion of Basic Reading or referral through assessment testing. One semester course; 3 credit hours; 3 class hours and 1 lab hour/week.*

EN4400 BASIC WRITING

Designed for students who lack the writing skills necessary to succeed in English Composition I. Emphasizes the composition of essays with further work on sentence and paragraph structure. Attention is also given to punctuation, grammar and spelling on an individualized basis. This course does not satisfy any part of the English Composition requirement for graduation. Students who fail the required writing assessment must take this course: other students may enroll on the basis of a faculty advisor's or counselor's referral, or permission of the instructor. Students for whom English is a second language are required to have successfully completed ESL Core English IV or have equivalent knowledge. The instructor will require 1/2 hour/week of additional lab. In order to proceed to English Composition I, students must pass a writing assessment given as the final exam in this course. This is a mandatory developmental course that does not carry graduation credit and may not be transferrable. *One semester course; 3 credit hours; 2 class hours and 2 lab hours/week.*

EN4401 ENGLISH COMPOSITION I

Required course to develop clear, effective writing. Students will demonstrate their competence through a variety of writing assignments including essays and a research paper. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: Students entering English Composition I will be required to complete a writing sample which will be evaluated by a departmental committee. That committee will place students in either English Composition I or a preparatory program more appropriate to their needs. Note: A grade of C- or better in English Composition I is required for entry into English Composition II.*

EN4402 ENGLISH COMPOSITION II

Required course which is a continuation of English Composition I with emphasis on longer analytic and argumentative papers and style. Readings and materials which will vary from section to section will be employed as the basis for a range of essays such as reports, evaluations, literary criticism, reviews, film criticism and research papers. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: Completion of EN4401 English Composition I with a grade of C- or better.*

EN4403 ADVANCED COMPOSITION

This seminar in writing beyond the freshman level is designed for students seriously interested in writing. Types of both non-fiction and fiction will be examined as guides in the development of writing style. Students will work on longer writing projects of their own design. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: EN4402 English Composition II or permission of instructor.*

EN4405 CREATIVE WRITING

A seminar for students who wish to write poems, narratives, plays, or filmscripts, this introductory course will present student writing for discussion with attention to the possibilities of revision and professional writing for examination of technique and critical theory. *One semester course; 3 credit hours; 3 class hours/week.*

EN4676 TECHNICAL WRITING

Providing exposure to and practice in various types of technical writing, this course is appropriate for those considering technical communication as a career or those in technical fields who wish to communicate more effectively. There will be practice in preparing technical definitions, descriptions, user instructions, proposals, written and oral reports. Whenever possible students will be expected to integrate their technical knowledge with writing projects. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: EN4401 English Composition I.*

EN5101 JOURNALISM I

The course provides training in the fundamentals of news gathering, evaluation, and the structure and writing of journalistic stories. Required: publication of at least six stories in the campus newspaper, The Observer. *One semester course; 3 credit hours; 3 class hours/week.*

EN5102 JOURNALISM II

This course focuses on advanced reporting and writing techniques, including feature and editorial writing. Students are required to assist in the production of The Observer and to publish in it at least six in-depth articles. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: EN5101 Journalism I or permission of the instructor.*

EN5103 JOURNALISM PRACTICUM

This course provides practical experience in professional journalism through internships at area newspapers, broadcasting stations or public relations departments of area institutions and agencies. A faculty member and representative of the employing agency coordinate and evaluate the student's work. *One semester course; 3 credit hours; 1 class hour and 6 practicum hours/week. Pre-requisites: EN5102 Journalism II and recommendation of faculty teaching courses in the Journalism/Broadcasting Option.*

EN5104 COPY EDITING

Students will learn the principles and practice of news editing, including the following topics: copy editing, headline and cutline writing, wire copy editing, and page makeup. An intensive review of English grammar and usage is included. This course is recommended for third semester students with a strong interest in print journalism. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: Permission of the instructor.*

EN5333 BROADCAST REPORTING & ANNOUNCING

The student will learn through the study of current radio and television practices how to edit and write news items for the radio and TV news media; how to broadcast these items on radio and TV; how to use basic equipment associated with radio and TV news gathering and production; and how to evaluate current broadcasting practices. Students are encouraged, though not required, to have access to a portable tape recorder and stop watch. *One semester course; 3 credit hours; 3 class hours/week.*

EN5334 TELEVISION PRODUCTION I

The student will learn through the study of current television practices: how to write for, edit, produce and direct various complete television programs in a non-dramatic format; how to operate the equipment in the TV studio and control centers; and how to evaluate television content. While the emphasis will be on the TV news program in which the student will learn how to work as an assignment editor and anchor person, the student will also learn the basic techniques of the extended interview, the panel show and the documentary. *One semester course; 3 credit hours; 2 lecture hours and 2 lab hours/week. Limited to 18 students. Pre-requisites: EN5333 Broadcast Reporting and Announcing and permission of the instructor.*

EN5335 TELEVISION PRODUCTION II

Builds on basic skills learned in Television Production I by utilizing the crew system in the television studio and control room. Students are required to produce (plan, write, stage, and direct) one television program on a topic of their choice to demonstrate these competencies: ability to write a standard television script; ability to use the specialized language of television; ability to select and adapt audio and visual materials appropriate to the subject of the program. Students will be required to assist in the television production of at least two projects related to the college's performing arts (mime, dance, drama, music). *One semester course; 3 credit hours; 2 lecture hours and 2 lab hours/week. Limited to 18 students. Pre-requisites: EN5334 Television Production I.*

EN8011 PUBLIC SPEAKING

The course is designed to familiarize students with rhetorical theory, critical thinking and the effective construction and delivery of various types of speeches. The course will concentrate on informative, persuasive and impromptu speeches, with other types included at the instructor's discretion. *One semester course; 3 credit hours; 3 class hours/week.*

EN8020 INTERPERSONAL COMMUNICATION

Designed to help students understand the theory and develop the skills necessary for effective communication, the course explores communication axioms, verbal and nonverbal messages, message reception and sending, interpersonal listening and feedback, E-prime language, nondirective responding, paraphrasing, describing feelings, behaving assertively, managing conflict and facilitating consensus in small groups. *One semester course; 3 credit hours; 3 class hours/week.*

EN8401 CHILDREN'S LITERATURE

A survey of 19th and 20th century children's literature, this course will examine the criteria of good literature, children's interests and developmental stages related to books, various genres of children's literature, children's book awards, illustrators and authors, and reference sources. *One semester course; 3 credit hours; 3 class hours/week.*

EN8801 THE BIBLE AS LITERATURE

This course emphasizes the literary content, qualities and techniques of the Hebrew and Greek scriptures in English translation. *One semester course; 3 credit hours; 3 class hours/week.*

EN8851 AMERICAN LITERATURE I

This course will present a study of the works of selected American writers from the beginnings to the Civil War and will include a study of the works' historical and literary settings. *One semester course; 3 credit hours; 3 class hours/week.*

EN8852 AMERICAN LITERATURE II

This course will present a study of the works of selected American writers from the Civil War to the present and will include a study of their historical and literary settings. *One semester course; 3 credit hours; 3 class hours/week.*

EN8853 BRITISH LITERATURE I

This course will present a study of selected British authors with emphasis on the period from the Middle Ages to the 18th century and will include a study of their historical and literary settings. *One semester course; 3 credit hours; 3 class hours/week.*

EN8854 BRITISH LITERATURE II

This course will present a study of the works of selected British authors with emphasis on the era from the Romantic period to the present and will include a study of their historical and literary settings. *One semester course; 3 credit hours; 3 class hours/week.*

EN8856 LITERATURE: MAJOR WRITERS

This course examines the principal works of one or two major writers of Classical, European, British, American, Latin American, Asian or African literature. The author or authors will differ each semester. *One semester course; 3 credit hours; 3 class hours/week.*

EN8861 WESTERN LITERATURE I

This course will present a study of selected major works of the Ancient World-Greek, Roman and Hebrew - to the early medieval period, with attention to their historical and literary settings. *One semester course; 3 credit hours; 3 class hours/week.*

EN8862 WESTERN LITERATURE II

This course will present a study of selected major works of Europe and Latin America from the medieval period to the present (excluding works originally in English) with attention to their historical and literary settings. *One semester course; 3 credit hours; 3 class hours/week.*

EN8864 LITERATURE: SHAKESPEARE

Selected plays by Shakespeare and critical essays will be analyzed to understand each play's internal workings. This course cultivates students' abilities to read the plays comfortably, to follow and enjoy a performance, and to write about the plays with understanding. *One semester course; 3 credit hours; 3 class hours/week.*

EN8865 AFRICAN AMERICAN LITERATURE

A selection of fiction, nonfiction, poetry, and drama by African Americans, this course will present topics that will vary from semester to semester, but may include leadership and slavery, the urban and rural experience, institutions such as the church and the law. African American music and film may be included. *One semester course; 3 credit hours; 3 class hours/week.*

EN8867 MYTHOLOGY AND LITERATURE

Using texts ranging from the Bible and Homer's epics to contemporary literary works, the course introduces mythological approaches to such subjects as heroism, place, time, family, and human nature. *One semester course; 3 credit hours; 3 class hours/week.*

**EN8882 LITERATURE: WOMEN'S LIVES-
RECORDED AND IMAGINED**

Presenting women's lives, primarily in women's words, through biography, autobiography, journals, letters, and fiction, this course includes as written materials permit, women from all walks of life - famous, infamous and previously unknown - exploring both historic and imaginative limits and possibilities for women. Students will develop critical perspectives on uses of literary sources and will apply what they learn to contemporary women's lives. *One semester course; 3 credit hours; 3 class hours/week.*

EN8883 WOMEN AND LOVE IN LITERATURE

Through works primarily by women in several genres from a variety of times and places, this course will explore multiple definitions of love and examine love's role, as presented in literature, in women's lives and relationships. *One semester course; 3 credit hours; 3 class hours/week.*

EN8884 LITERATURE: WOMEN IN FILM

This course presents the multiple views of women as seen through the cinema, with examples from literature as well. The student will meet varied attitudes toward self, beauty, socialization, exploitation and destiny of 20th century women. *One semester course; 3 credit hours; 2 class hours and 2 lab hours/week.*

EN8885 LITERATURE: THE ART OF THE MOVIES

This course will attempt to foster critical taste in film. Students will explore the role of film in contemporary society by viewing and discussing documentaries, experimental films, impressionistic films, animated films and commercial films. Discussion and analysis will acquaint the student with the interrelationship of film technique and content. *One semester course; 3 credit hours; 2 class hours and 2 lab hours/week.*

EN8891 LITERATURE: POETRY

This course stresses close critical reading and discussion of selected poems, with emphasis on the poems of the 20th century. There will be a consideration of the standard topics of poetry, such as, but not limited to, imagery, rhythm, structure, and purpose. *One semester course; 3 credit hours; 3 class hours/week.*

EN8894 LITERATURE: THE SHORT STORY

This course stresses close critical reading and discussion of selected short stories written by 19th and 20th century authors from around the world, with special emphasis on works by American writers. *One semester course; 3 credit hours; 3 class hours/week.*

EN8895 LITERATURE: THE NOVEL

This course is a study of the various forms and possibilities of the novel. Students will consider the concept of this genre. Readings, novels, as well as critical and historical essays, will differ each semester. *One semester course; 3 credit hours; 3 class hours/week.*

Finance

FI3600 BUSINESS SPREADSHEET APPLICATIONS

Students will learn data entry procedures and will learn to solve a series of realistic marketing, finance, accounting and production problems using spreadsheet software. *One semester course; 3 credit hours; 2 class hours and 2 lab hours/week.*

FI3652 BUSINESS FINANCE

Principles and practices of business finance. The short and long term sources of funds, management of financial assets, capital requirements, alternative forms of financing and the capital market. Some use of case study method. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: AC6611*

FI3655 PLANNING & FINANCE FOR ENTREPRENEURS

Students in this course will learn to develop a business and sell the plan to an investor. Case studies and discussion topics include business plans, start ups, valuation techniques, franchising, company purchasing techniques, finance planning, pro forma development and evaluation. Students will be divided up into teams of three to five and will be required to meet outside of regular class hours. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: A grade of C or better in BU4450 Introduction to Entrepreneurship.*

Fine Arts

FA7012 INTRODUCTION TO THE CREATIVE EXPERIENCE

Designed to introduce methods, materials and meaning of the arts to those who are involved in developmental programs—childhood to adulthood. It is the way to explore the world through nonverbal experiences which are personal to each one. Emphasis is placed on spontaneity, imagination, invention and flexibility of each student. *One semester course; 3 credit hours; 3 class hours/week.*

FA7020 INTRODUCTION TO THE CREATIVE ARTS

An interdisciplinary approach to the arts with emphasis on both the experience of the arts and theory. The course is designed to give students an overview of all the arts by emphasizing the actual experience of dance, theatre, art and music. It is intended to give the student a strong sense of the enjoyment, excitement and pleasure that the arts can provide. *One semester course; 3 credit hours; 3 class hours/week.*

FA7030 DRAWING I

This course is an introduction to the problems, techniques, and materials of drawing. Each class project will focus on a different aspect of visual perception, composition, and artists' materials. *One semester course; 3 credit hours; 2 class hours and 2 lab hours/week.*

FA7031 DRAWING II

This course is a continuation of the problems, techniques and materials introduced in Drawing I. Students will continue exploring a variety of drawing materials. Emphasis, however, will be placed on understanding the problems inherent in translating what one sees in three dimensions to what one creates on the two dimensional surface. *One semester course; 3 credit hours; 2 class hours and 2 lab hours/week. Pre-requisite: Drawing I.*

FA7040 PAINTING I

This course is an introduction to the problems, techniques and materials of Painting. Each class project will focus on a different aspect of visual perception, composition and artists materials. *One semester course; 3 credit hours; 2 class hours and 2 lab hours/week.*

FA7041 PAINTING II

This course is a continuation of Painting I. The emphasis will be on giving more complexity and subtlety to both the color and the composition in each project. The student will be encouraged to find personal solutions to the general problems presented. *One semester course; 3 credit hours; 2 class hours and 2 lab hours/week. Pre-requisite: Painting I.*

FA7045 FIGURE DRAWING

This course offers the student the opportunity to draw from a live model. Class sessions will explore different approaches to figure drawing, covering a variety of techniques and concepts (gesture drawing, contour line drawing, form, light and shade, movement, etc.). Students will be encouraged to experiment with a variety of materials, and to enlarge the scale of their work as the semester progresses. *One semester course; 3 credit hours; 2 class hours and 2 lab hours/week. Pre-requisite: FA7030 Drawing I.*

FA7051 INTRODUCTORY PHOTOGRAPHY

A foundation course that covers basic camera operation, dark-room techniques, exposure, composition and aesthetics, and the use of color. Students will learn to develop and print their own black and white photographs in a laboratory setting. An adjustable 35mm camera is required. Students are expected to complete lab work. *One semester course; 3 credit hours; 3 class hours/week.*

FA7053 ADVANCED PHOTOGRAPHY

Advanced techniques in camera operation, black and white process, composition, and the use of color. Emphasis is on photographic self-expression and communications. Students are expected to complete lab work as required. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: FA7051 Introductory Photography or permission of the instructor.*

FA7055 NEWS PHOTOGRAPHY

A course on the practical application of photojournalism. Concentration is on providing eye catching photographs for newspapers, magazines, newsletters and other print media. Participants will regularly take and print pictures on assignment for the campus newspaper The Observer. Students will meet with instructor once a week to receive photo assignments and critique previous assignments. *One semester course; 1 credit hour; 1 class hour/week. Pre-requisite: Introduction to Photography (may be taken concurrently) or permission of the instructor.*

FA7080 COLOR AND DESIGN

This foundation course will look at color through its physical properties as well as its expressive functions. The class will explore the properties of value, hue and intensity. The student will deal with problems in manipulating color as well as mixing it. Concern will be for the process of taking a color concept from idea to finished form. There will be emphasis on clarity of concept through quality of craftsmanship. *One semester course; 3 credit hours; 2 class hours and 2 lab hours/week.*

FA7089 DANCE PEDAGOGY

This is a course for prospective teachers of dance or for those preparing for a second career. Topics of study will include dance theory, prevention of dance injuries, and teaching methods for a wide variety of levels. An additional minimum of 12 hours of teaching on or off campus, will be required. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisites: FA7091 Dance in Performance and permission of the instructor.*

FA7090 DANCE REPERTORY

A rehearsal format along with work on technique, this course will encompass traditional, modern, jazz and ballet repertoire and require participation in two performances. *One semester course; 3 credit hours; 4 class hours/week. Pre-requisites: Dance in Performance and permission of the instructor.*

FA7091 DANCE IN PERFORMANCE

The course will include a review of the basic techniques of Modern Dance, advance to more involved training in technique, movement and improvisation, and focus on the principle of dance production. Students will be introduced to production areas such as choreography, programming, costuming, lighting, public relations, audiovisual, special effects and budget, and they will participate in the final performance of the semester, Still Point, given for the community. *One semester course; 3 credit hours; 3 class hours/week.*

FA7094 DANCE COMPOSITION

The course is designed to provide students with a broad perspective on movement, choreography and composition, through the study of dance history and various choreographic techniques. Students will have the opportunity to create and perform their individual works in a student performance to be given at the end of the semester. *One semester course; 3 credit hours; 3 class hours/week.*

FA7096 GRAPHIC DESIGN I

An introductory course to develop: a basic understanding of the concept of graphic design as visual communication; the ability to apply fundamental design principles to typographic and pictorial elements to achieve a fully integrated visual message; and to take a concept from rough idea to final presentation for commercial reproduction. Consideration will also be given to the tools and media used in commercial design, layout and paste-up. *One semester course; 3 credit hours; 2 class hours and 2 lab hours/week.*

FA7097 GRAPHIC DESIGN II

The course will focus on basic design skills applied to commercial reproduction, with attention to the function of advertising in our society. Effective use of image, lettering and color in layout and design will be a primary consideration. *One semester course; 3 credit hours; 2 class hours and 2 lab hours/week.*

FA7121 MACINTOSH DESIGN

An introduction to commercial art emphasizing computer illustration and type using the Macintosh computer as a tool for graphic design and desktop publishing. Content will include hands on practice with drawing, paint and word processing programs. Hardware products discussed as needed. Word processing and/or graphic design background helpful but not required. *One semester course; 3 credit hours; 2 class hours and 2 lab hours/week.*

FA7122 PUBLICATION DESIGN

This course explores typography, page ingredients and creative visual communication while learning to create publications with a major desktop publishing software program for the Macintosh computer. *One semester course; 3 credit hours; 2 class hours and 2 lab hours/week. Pre-requisite: FA7121 Macintosh Design.*

FA7123 PUBLICATION DESIGN II

A computer graphics course using advanced page design, style and layout skills. Students will create publications with QuarkXPress software on the Macintosh computer. Emphasis will be on developing promotional materials with pictures and creative images; doing color separation, page layouts with original and/or scanned art; advertising design. *One semester course; 3 credit hours; 2 class hours and 2 lab hours/week. Pre-requisite: FA7122 Publication Design.*

**FA7126 ADVANCED PUBLICATION DESIGN
(QUARKXPRESS)**

This course will provide advanced skills in publication design, computer illustration and the printing process. Students will demonstrate their competence through design projects using an advanced layout program QuarkXPress and an advanced drawing program Freehand. *One semester course; 3 credit hours; 2 class hours and 2 lab hours/week. Pre-requisite: FA7122 Publication Design.*

FA7130 ANIMATION

Emphasis will be on introducing students to computer animation, with specific projects to be done on the Macintosh computer. The main focus will be on mastering the tools and terms used in computer animation in order to design, illustrate and final edit animation clips. *One semester course; 3 credit hours; 2 class hours and 2 lab hours/week. Pre-requisite: FA7121 Macintosh Design.*

FA7210 PORTFOLIO FOR ILLUSTRATION

Focus is on developing a portfolio for purposes of further study or professional marketing. The student will develop an appropriate portfolio for illustration by working on assigned projects, selecting and presenting work, developing appropriate associated materials (e.g. resume, card, stationery, tear sheets or printed pieces.) *One semester course; 1 credit hour; 1 class hour/week.*

FA7211 PORTFOLIO FOR GRAPHIC DESIGN

Focus is on developing a portfolio for purposes of further study or professional marketing. The student will develop an appropriate portfolio for graphic design by working on assigned projects, selecting and presenting work, developing appropriate associated materials (e.g. resume, card, stationery, tear sheets or printed pieces.) *One semester course; 1 credit hour; 1 class hour/week.*

FA7212 PORTFOLIO FOR PHOTOGRAPHY

Focus is on developing a portfolio for purposes of further study or professional marketing. The student will develop an appropriate portfolio for photography by working on assigned projects, selecting and presenting work, developing appropriate associated materials. *One semester course; 1 credit hour; 1 class hour/week.*

FA7290 DANCE REPERTORY II

A rehearsal format along with advanced work on technique, this course will encompass modern and jazz repertoire and require participation in four performances. The course will also include a dance history component and a thesis paper on dance performance or dance history. *One semester course; 3 credit hours; students will devote 2 class hours a week to advanced technique as well as dance history and a minimum of 2 lab hours/week to learn and execute more advanced choreography. Pre-requisite: FA7090 Dance Repertory.*

FA9001 ILLUSTRATION I

The aim of the course is to give exposure to a variety of media used in commercial illustration, as well as to the different types of illustration including book, newspaper and current event. Developing drawing skills will be an integral part of the course. The history of illustration will be presented in order to understand it as communication from concept to finished product. *One semester course; 3 credit hours; 2 class hours and 2 lab hours/week. Pre-requisite: FA7030 Drawing I or permission of instructor.*

FA9002 ILLUSTRATION II

Illustration II will give students an opportunity to build on the conceptual and technical strategies of pictorial communication introduced in Illustration I. It will offer possibilities for refining graphic and aesthetic abilities, developing personal style, and applying those skills toward assignments with actual or simulated commercial applications. Students will be encouraged to start a professional portfolio and will be offered exposure to the business, as well as the art, of illustration. *One semester course; 3 credit hours; 2 lecture hours and 2 lab hours/week. Pre-requisite: Illustration I.*

FA9005 COMPUTER ILLUSTRATION

Emphasis will be on introducing students to computer illustration with specific projects to be done on the Macintosh computer. The main focus will be on using Adobe Illustrator and other draw and paint software to create original computer generated illustrations. Graphic and aesthetic fundamentals will be addressed; an emphasis of the course will be the connection of other commercial art courses to Computer Illustration. *One semester course; 3 credit hours; 2 class hours and 2 lecture hours/week. Pre-requisites: FA7030 Drawing I; FA7121 Macintosh Design.*

French

FR4401/FR4402 INTRODUCTORY FRENCH I & II

For students who have not completed two years of secondary school French or the equivalent as determined by the department. An introduction to the basic grammatical patterns of French. Speaking, reading and writing in the French language. *Two semester course; 3 credit hours per semester; 3 class hours/week.*

FR4451/FR4452 INTERMEDIATE FRENCH I & II

For students who have completed two or more years of secondary school French or the equivalent as determined by the department, or who completed FR4401 and FR4402 successfully. A continued study of FR4401 and FR4402 language skills, emphasizing the development of reading ability. *Two semester course; 3 credit hours per semester; 3 class hours/week.*

Geography

GE9511 INTRODUCTION TO GEOGRAPHY

A survey of the earth's political, social, cultural, and economic patterns and their relationship to the earth's physical features. The course will stress the location of nations and cities, rivers and seas, and it will examine the history and current political situation of each major area of the world. It will also discuss the exploitation of earth's resources with a view toward maintenance and restoration. *One semester course; 3 credit hours; 3 class hours/week.*

German

GM4401/GM4402 INTRODUCTORY GERMAN I & II

An adventure in German culture and communication. For students who have not completed two years of secondary school German or the equivalent as determined by the department. Audio-lingual emphasis. Introduction to grammatical patterns, speaking, reading and writing. *Two semester course; 3 credit hours per semester; 3 class hours/week.*

GM4451/GM4452 INTERMEDIATE GERMAN I & II

A further exploration of German life and language. For students who have completed two or more years of secondary school German or the equivalent as determined by the department, or who have completed GM4401 and GM4402. A workshop approach to the development of reading, speaking, translation and composition skills. *Two semester course; 3 credit hours per semester; 3 class hours/week.*

Government

Note: Credit toward graduation will not be awarded for more than two of the following: Federal Government, State and Local Government, American Government and Politics.

GV3300 INTRODUCTION TO LAW

A survey of the structure, functions and development of the legal and judicial process with emphasis on legal concepts, terminology and case analysis. Attention will be given to historical background for Anglo/American practices. *One semester course; 3 credit hours; 3 class hours/week.*

GV3301 U. S. CONSTITUTIONAL LAW

Constitutional law is a formal body of rules which consist primarily of decisions and opinions of the U.S. Supreme Court. It is the study of factual background, historical and contemporary, of major Supreme Court cases to gain an analytical framework by which to understand the standards and tests applied by the Court in reaching decisions. Emphasis on U.S. Governmental structure and relationships including relationships with state and local governments. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: Any previous course with a GV prefix passed with a grade of C- or better or permission of the instructor.*

GV3310 AMERICAN GOVERNMENT AND POLITICS

Survey of the structure and operations of federal government as well as state government. The course will include the relationship of the three branches of the federal government to each other and to state governments. U.S. and state constitutions and their interpretations will be discussed. Emphasis is given to American political traditions, parties, processes and a range of governmental policies. Note: This course is designed to meet the requirements of state law for students who intend to transfer to Massachusetts state colleges. *One semester course; 3 credit hours; 3 class hours/week.*

GV3312 INTRODUCTION TO POLITICAL SCIENCE

Descriptive survey of the general principles of politics. Emphasis is given to the development of politics in society, the major political traditions and ideologies, and comparative governmental systems including institutions, political organization and behavior, and a select range of government policies. *One semester course; 3 credit hours; 3 class hours/week.*

GV3315 CIVIL RIGHTS AND LIBERTIES

Seals with the role of individual rights and liberties in American society within the framework of the U.S. Constitution. The paradox of freedom is essentially the core around which lectures, discussion and research will be conducted. It is advisable to take this course after having completed a course in federal government. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: Any previous course with a GV prefix passed with a grade of C- or better or permission of the instructor.*

GV3320 WOMEN AND THE LAW

Designed to introduce students to various areas of law that affect a woman's life. It will include such topics as an historical overview of women's legal rights in the U.S., employment rights and benefits, education, criminal law, marriage and divorce and reproductive issues as well as other constitutional issues specifically pertinent to women. Students will each explore one area in depth. This is an introductory course that does not presuppose prior study of law. *One semester course; 3 credit hours; 3 class hours/week.*

Health Information Technology

MR6601 MEDICAL RECORD SCIENCE I

The beginning of a series of courses designed to instruct students in the theory and principles of Health Information Technology. Subjects covered are orientation to medical record field, admitting areas, medical record forms and content, medical record formats (e.g., problem-oriented medical record), numbering and filing systems, record retention procedures, storage and retrieval systems, medical staff organization and by-laws. *One semester course; 3 credit hours; 3 class hours/week.*

MR6602 MEDICAL RECORD SCIENCE II

Course includes the study of principles of law as related to patient care and medical records, state and federal legislation regulating health care facilities or the delivery of health care services and the role of healthcare accrediting agencies. Medicare, Medicaid, P.R.O. and other health related legislative programs will be covered. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: MR6601.*

MR6605 INTRODUCTION TO MEDICAL LANGUAGE I

A study of basic prefixes, suffixes, roots, abbreviations, symptomatic, disease, operative, and drug terminology. Terms will be taught by anatomical system with lectures on the anatomy of the system included. The following systems are covered: integumentary, musculoskeletal, cardiovascular, blood and blood forming organs. *One semester course; 3 credit hours; 3 class hours/week.*

MR6606 INTRODUCTION TO MEDICAL LANGUAGE II

A study of prefixes, suffixes, roots, abbreviations, symptomatic, disease, and operative terminology of the following systems are covered: digestive, respiratory, neurological, urogenital, maternal and antenatal, endocrine, organs of special sense, and systemic diseases. Also selected laboratory terms and selected medical terms relating to psychiatry are covered. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: MR6605 Introduction to Medical Language I.*

MR6620 DIRECTED PRACTICE I (MEDICAL RECORD)

Supervised practice in the medical record department of a community hospital affiliated with the Health Information Technology Program. Students participate in specific phases of medical record systems and become acquainted with the required medical record procedures of a local hospital. Several reports prepared by students relating to the experience are required. *One semester course; 4 credit hours; 16 hours/week. Two hospital working days per week (own transportation necessary). Pre-requisites: MR6606, MR6602 concurrently. Malpractice insurance necessary.*

MR6622 DIRECTED PRACTICE II (MEDICAL RECORD)

Supervised practice in health information systems in extended care facilities, psychiatric facilities, ambulatory care facilities and in related health care settings. When appropriate, field trips will be arranged in order to reinforce and demonstrate medical record systems in alternative health care settings. Note: Students must provide their own transportation. *One semester course; 4 credit hours; 2 days per week. Pre-requisites: MR6651, MR6620. Malpractice insurance necessary.*

MR6629 MEDICAL RECORD CODING & CLASSIFICATION

Topics covered include history, format and conventions of the International Classification of Diseases. It will cover basic coding principles which allow clinical statements to be translated into code numbers. Included will be brief coverage of other coding systems that may be required or mandated in order for a facility to receive maximum reimbursement (e.g., HCPCS/CPT which is a system required for Medicare billing of physician's and other selected clinical services and for Medicare outpatient hospital services billing). *One semester course; 3 credit hours; 3 class hours/week. Pre-requisites: BI5520, MR6606; BI5530 concurrently.*

MR6630 CODING & CLASSIFICATION PRACTICUM

The student will apply the principles of coding learned in the classroom under direct supervision of a coder/analyst at the affiliating health care facility. The coding systems applied will be ICD-9-CM and CPT 4. *A 45-hour practicum; 1 credit hour. Pre-requisite: MR6629 Medical Record Coding & Classification Systems.*

MR6651 MEDICAL RECORD SCIENCE III

Study of basic principles of compiling statistics for hospitals and other medical facilities. Topics include the daily census; analysis of hospital services; monthly, annual and special reports; methods of recording vital statistics; definitions and formulas, data abstracting systems, data entry and retrieval. Topics covered also include record systems in alternative health care settings (e.g., doctor's office, long term care, psychiatric, rehabilitation, HMO, ambulatory care and home health agencies). *One semester course; 3 credit hours; 3 class hours/week. Pre-requisites: MR6602 and MR6620.*

MR6655 MEDICAL RECORD SCIENCE IV

Topics covered include quality improvement concepts and methodologies as they relate to the medical record keeping function. A study of the prospective payment system including DRG's, casemix and PRO is integrated with management of a medical record department. Management aspects covered include management of the transcription area, casemix management, quality improvement, utilization review, and risk management. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: MR6651*

MR6661 MEDICAL RECORD TRANSCRIPTION I

Introduction to the role of the transcriptionist in health record services. It covers the operation of a computer and transcribing equipment; techniques of transcription; and transcribing of sample medical communications, such as basic history and physical examination, reports of specialty departments (e.g., x-ray, pathology, EKG's, etc.). Also covered, the typing of various medical forms, admission records, group hospital insurance forms, doctor's service reports, patient transfer forms, etc.; the use of medical references with cross referencing; the proper spelling and punctuation of both common and medical terms. Quality of transcription emphasized rather than quantity. *One semester course; 3 credit hours; 4 class hours/week. Pre-requisites: MR6605, keyboarding skills of 45 wpm with 5 errors or less.*

MR6662 MEDICAL RECORD TRANSCRIPTION II

Development of medical transcription at a productive speed with accuracy. Units of history and physical examinations, surgical reports, and discharge summaries covering the areas of cardiology, obstetrics-gynecology, orthopedics, respiratory, gastroenterology, plastic surgery, urology, neurology, psychiatry, otorhinolaryngology, ophthalmology, and endocrinology-oncology. Rate of production is measured. Also medical timed writings and a review of English grammar, usage and style given. *One semester course; 3 credit hours; 4 class hours/week. Pre-requisite: MR6661.*

MR7701 CODING & CLASSIFICATION FOR MEDICAL BILLING

Designed to familiarize students with basic coding principles. Topics include format and conventions of ICD9-CM and HCPCS/CPT. These coding systems allow clinical statements to be translated into code numbers that are linked to reimbursement, and facilitate processing claims in accordance with payer requirements. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: MR6605 Introduction to Medical Language I. Co-requisite: MR6606 Introduction to Medical Language II.*

MR7702 MEDICAL BILLING ADMINISTRATION

Designed to teach skills in the management of patient medical accounts using standard healthcare third party billing methodologies. Topics include insurance claim life cycle, analysis of common medical programs such as Blue Cross, Medicare, Medicaid, HMO's etc., billing forms, recording account transactions, legal issues, and handling patient inquiries. A standard medical billing software tool will be used in completing the practical application requirements of the course. *One semester course; 3 credit hours. Co-requisite: MR7701 Coding & Classification for Medical Billing.*

MR7703 MEDICAL BILLING INTERNSHIP

The student will apply the billing, coding and patient account management principles learned in the classroom, under direct supervision of a third party billing professional in a health care facility and/or physicians office. The coding systems applied will be ICD-9-CM and CPT-4 and billing for a variety of third party payers. *A 150 contact hour internship; 3 credit hours. Pre-requisites: MR7701 Coding & Classification for Medical Billing and MR7702 Medical Billing Administration.*

Health Services

HS1010 MEDICAL TERMINOLOGY I

Basic prefixes, suffixes, roots, abbreviations, symptomatic, disease, operative and drug terminology. Terms will be taught by anatomical system with lectures on the anatomy of the system covered (the basics). The following systems are covered: integumentary, cardiovascular, urogenital, lymphatic, immune, blood and blood forming organs. *One semester course; 1 credit hour; 1 class hour/week.*

HS1011 MEDICAL TERMINOLOGY II

A study of the language of medicine including the following topics: Prefixes, suffixes, roots, abbreviations, symptomatic, disease and operative terminology of the following systems: Digestive, neurological, maternal and antenatal, organs of special sense (eyes and ears), respiratory, diagnostic and imaging, endocrine, pharmacy, musculoskeletal. In addition, selected laboratory terms and terms related to medical specialties like psychiatry, oncology, etc. *One semester course; 1 credit hour; 1 class hour/week.*
Pre-requisite: HS1010 Medical Terminology I.

HS6651 INTRODUCTION TO HEALTH SERVICES

A survey course to provide the student with a comprehensive overview of the health care delivery system and its integration within the community. Some of the topics to be covered are orientation to health professions, organizational patterns of health care, financing of health care, proposed state and federal legislation and medicolegal standards. Field trips and guest lecturers may be utilized. *One semester course; 3 credit hours; 3 class hours/week.*

HS6653 FOUNDATIONS OF HEALTH CARE

This course is designed for students interested in a health profession/nursing career. During this course of study students will learn to apply the basic nursing skills at the Nursing Assistant (RNA) level. *One semester course; 3 credit hours; 2 class hours and 4 practicum hours/week.*

HS6710 EMERGENCY MEDICAL TECHNICIAN

Specialized training for employees or volunteer members of public or private organizations having a responsibility for delivery of emergency care. The course is conducted by the college in co-operation with the North Shore Emergency Medical Council, Inc. Training areas covered will be respiration and resuscitation; medical and environmental emergencies, including unscheduled childbirth; injuries to the skull, brain, neck and spine; and bleeding, wounds and shock. Students must pass this course in order to be eligible to take the State Registry Exam for Emergency Medical Technicians. *One semester course; 7 credit hours; 7 class hours/week.*

History

Note: A sequence of Western Civilization I & II or World Civilization I & II recommended. Transfer institutions should be consulted by the student as to their respective preferences. However, in no case will students be given credit for both Western Civilization I and World Civilization I or both Western Civilization II and World Civilization II.

HI9900 THE CONTEMPORARY WORLD

Survey of important political, social, economic and cultural developments in the world since 1945. Emphasis will be placed on the nuclear arms race, the Cold War, upheaval and transformation in the Third World and the rearrangement of the world balance of political and economic power. *One semester course; 3 credit hours; 3 class hours/week.*

HI9901 WESTERN CIVILIZATION I

Survey of major historical developments and trends in Western Civilization from their origins to 1715 with emphasis on the formation and evolution of the social, political, economic, religious and cultural institutions of ancient medieval and early modern Europe. *One semester course; 3 credit hours; 3 class hours/week.*

HI9902 WESTERN CIVILIZATION II

Survey of major historical developments and trends in Western Civilization from 1715 to the present with emphasis on the evolution of social, political, economic, religious and cultural institutions in modern Europe. *One semester course; 3 credit hours; 3 class hours/week.*

HI9903 EARLY CIVILIZATION

Survey of major historical developments and trends in the rise of the West from their origins in the ancient Near East through Classical Greece and Rome to the decline and fall of the Roman Empire and the rise and triumph of Christianity. Attention is given to the formation and evolution of social, political, and economic institutions as well as intellectual, religious and cultural achievements. *One semester course; 3 credit hours; 3 class hours/week.*

HI9904 WORLD CIVILIZATION I

Survey of major world civilizations from their origins to 1500 stressing and interpreting social, cultural, intellectual, religious, economic and political developments of European, African, Asian and Amerindian societies and their contributions to humankind. *One semester course; 3 credit hours; 3 class hours/week.*

HI9905 WORLD CIVILIZATION II

Survey of major world civilizations from 1500 to the present, stressing social, cultural, intellectual, religious, economic and political developments of European, African, Asian, and Amerindian societies, their contributions to humankind and interaction. *One semester course; 3 credit hours; 3 class hours/week.*

HI9913 U.S. HISTORY I

Survey of U.S. history from colonial times through the Civil War. Traces and development of political, social, cultural and economic institutions. *One semester course; 3 credit hours; 3 class hours/week.*

HI9914 U.S. HISTORY II

Survey of U.S. history from reconstruction to the present. Examines political, social, cultural and economic institutions of the U.S. Focuses on the extension of those institutions through imperialism and the challenges to them by the depression and two world wars. *One semester course; 3 credit hours; 3 class hours/week.*

HI9916 RECENT U.S. HISTORY

Seminar on American history since World War II. Directed readings and emphasis on the major areas of recent national concern such as the welfare state, foreign affairs, changes in American society, the urban crisis in the postwar years, etc. In addition, projects, the intent of which is to depict some perspectives on contemporary America, are assigned. *One semester course; 3 credit hours; 3 class hours/week.*

HI9917 THE FAMILY IN HISTORY

Analysis of the changes in the structure and functions of the family in Western Europe and America from the 16th century to the present. Special emphasis will be placed upon the impact of industrialization and modernization upon the family and its individual members. *One semester course; 3 credit hours; 3 class hours/week.*

HI9953 MODERN CHINA AND JAPAN

Survey of Chinese and Japanese history and related areas from around 1800 to the present. This course will begin by exploring the nature of traditional China and Japan on the eve of confrontation with the West, their contrasting responses to Western power and ideas and their attempts at reconciling traditional and modern ideas and institutions; it will then proceed to examine the emergence of nationalism in China and Japan, the triumph of revolution in China and the establishment of the People's Republic and the growth of Japan into a modern industrial state. *One semester course; 3 credit hours; 3 class hours/week.*

HI9955 MINORITY GROUPS IN AMERICA

Seminar on the contributions and difficulties of religious, racial, ethnic and other minority groups in the pluralistic American Society from colonial times to the present. Particular attention will be given to the following groups: Catholic and Jewish, Native Indian, African-American and Hispanic, southern European and Asian. Students will research, write and present individual reports. *One semester course; 3 credit hours; 3 class hours/week.*

HI9956 AMERICAN FOREIGN POLICY

Survey of U.S. foreign affairs from revolutionary times to the present. Special emphasis on America's emergence as a world power and her relationship with Europe, Latin American and the Far East. Attention will be paid to the developing roles of the President and the State Department, Congress and international organizations in our foreign policy. *One semester course; 3 credit hours; 3 class hours/week.*

HI9958 TWENTIETH CENTURY RUSSIA

This course will begin by looking at tsarist Russia in order to understand the background to the Communist takeover in 1917. The successes and failures of the Communist system will then be examined. Attention will be given to the collapse of Communism and subsequent breakup of the Soviet Union. The course will conclude with an examination of Russia and the other former Soviet Republics in the post-Communist era. *One semester course; 3 credit hours; 3 class hours/week.*

HI9959 HISTORY OF LATIN AMERICA

Survey of the historical development of Latin America from the preconquest societies to the present time. Emphasis is placed on the contributions made by the Indian traditions, the European conquerors, and the fusion of these two elements in the years following independence. The relationship between the United States and Latin America will be given special attention. *One semester course; 3 credit hours; 3 class hours/week.*

HI9960 THE MODERN MIDDLE EAST

Introductory survey of the social, political, intellectual, religious and economic forces that have shaped the contemporary Middle East. In addition to considering the Talmic and Ottoman backgrounds and influences common to most of the countries in the Middle East, each of the principal countries in this region will be examined separately. Special attention will be given to the problems resulting from the interaction of traditional indigenous elements and modern external forces among Arabs, Jews, Persians and Turks. *One semester course; 3 credit hours; 3 class hours/week.*

HI9962 WOMEN'S HISTORY: GIVING THE MAJORITY ITS PAST

Women's experience has always made up half the past, thus, their lives and concerns are as important in the study of history as those of men. Introducing students of both sexes to admirable people, male and female, is important, both for an understanding of what was possible and achieved in former times, and what one can become in today's world, drawing on that past heritage. This course examines those cultural assumptions by which a society measures the significance of all our lives. What do our instructional institutions (family, church, schools and media) teach us about individual values: what is expected of a little girl when she grows up and a little boy when he matures? Are these expectations realistic or biased? Does a double standard in income, morality and opportunity still exist? Women's history raises such questions and offers a challenge to teachers and students alike. The particular emphasis in period and culture will be determined by the instructor. *One semester course; 3 credit hours; 3 class hours/week.*

Humanities

HU4000 INTRODUCTION TO HUMANITIES

Through thematically selected works of literature, film, music, art, religion, and philosophy, this team-taught course focuses on the individual's concept of self (identity, purpose, goals, destiny) and the individual's relationship to community (ethics, values, justice) as explored in the traditional and nontraditional intellectual and artistic heritage of humanity. *One semester course; 3 credit hours; 3 class hours/week.*

HU4011 ART, MATH AND NATURE

This team taught course, a joint venture of Bradford College and Northern Essex, explores the connections and relationships that exist in the world of nature, the world of forms and the world of ideas. It also examines the use of mathematics as an artistic tool for both two and three-dimensional design. *One semester course; 3 credit hours; 3 class hours/week.*

Human Services

MH2111 INTRODUCTION TO HUMAN SERVICES

An introduction to the history of human services; current trends in mental health and human services, developmental disabilities, and substance abuse. The focus will be on understanding the human service delivery system, communication techniques, legal/human rights, empowerment, prevention/intervention, learning the diagnostic process, the development of the treatment plan based on assessment, documentation, ethics/confidentiality, and the role of the human services practitioner. The National Community Support Skill Standards for human service practitioners are integrated into the course content. *One semester course; 3 credit hours; 3 class hours/week.*

MH2133 OBSERVATION & RECORDING OF HUMAN SERVICES PROGRAMS

A preliminary investigation of programs in human services in varied community settings. This course is designed for students to visit selected agencies in the community and to participate in discussions with community professionals who provide human services. It is designed as an observational activity because the essence of learning about human services is to have the opportunity to feel the experience and have contact with people who are in need of services. Focus will be on community resources, networking, observation, and recording skills. The National Community Support Skill Standards for human service practitioners are integrated into the course content. Students will also begin to develop a resource directory in human services. *One semester course; 1 credit hour; 4 practicum hours/week. Pre-requisite: Enrollment in the Human Services, Community Support Human Service Practitioner or Alcohol/Drug Abuse Counseling programs.*

MH2134 HUMAN SERVICES PRACTICUM I

A practicum in selected community based human service programs, psychiatric hospitals, clinics, day treatment programs, workshops, social service agencies, and schools. Students have an educational experience of their own choice, and under professional supervision, that promotes personal and professional growth. Students provide direct support services using the skills of interpersonal communication, interviewing, observation, conflict resolution, problem solving, case management, intervention, and documentation. They practice a philosophy of human services that includes respecting the dignity of all individuals, recognizing individual differences, individual empowerment, confidentiality, and ethical practice. Classroom theory is integrated into the practicum experience where students demonstrate skills and competencies based on the National Community Support Skills Standards. *One semester course; 4 credit hours; 12 practicum hours and 1 class hour/week. Pre-requisite: Enrollment in the Human Services program.*

MH2143 HUMAN SERVICES PRACTICUM II

A continuation of Practicum I but with a greater involvement in direct support services. Classroom theory is integrated into the practicum experience where students demonstrate skills and competencies based on the National Community Support Skills Standards. *One semester course; 4 credit hours; 12 practicum hours and 1 class hour/week. Pre-requisite: Enrollment in the Human Services program.*

MH2144 HUMAN SERVICES PRACTICUM III

A continuation of Practicum II but with more intensive involvement in direct support services with increased understanding of the operation of the facility and opportunity for career development. Classroom theory is integrated into the practicum experience where students demonstrate skills and competencies based on the National Community Support Skill Standards. *One semester course; 4 credit hours; 12 practicum hours and 1 class hour/week. Pre-requisite: Enrollment in the Human Services program.*

MH2145 HUMAN SERVICES PRACTICUM IN RESIDENTIAL SERVICES I

A practicum in residential services (adult and children), independent support living programs, shelters, and day habilitation programs. Students have an educational experience of their own choice, and under professional supervision, that promotes personal and professional growth. Students provide direct support services to assist persons with emotional disability, mental illness, developmental disability, and substance abuse to improve their quality of life and integrate into the mainstream of society. Classroom theory is integrated into the practicum experience where students demonstrate skills and competencies based on the National Community Support Skill Standards. *One semester course; 4 credit hours; 1 class hour and 12 practicum hours/week. Pre-requisite: Enrollment in the Community Support Human Service Practitioner Program.*

**MH2146 HUMAN SERVICES PRACTICUM IN
RESIDENTIAL SERVICES II**

A continuation of Practicum I but with a greater involvement in the delivery of direct support services with increased understanding of the operation of the program and opportunity for career development. Classroom theory is integrated into the practicum experience where students demonstrate skills and competencies based on the National Community Support Skill Standards. *One semester course; 4 credit hours; 1 class hour and 12 practicum hours/week. Pre-requisite: Enrollment in the Community Support Human Service Practitioner program.*

MH2147 GROUP DYNAMICS

Course aims to help students realize their potential for growth more fully and increase their ability to work effectively with others in a variety of situations. Students will learn how groups work and how individuals function within groups by forming a group for this purpose. Phases of group development, communication and group performance are experienced and discussed. Having an appreciation of group process will also enable students to support individuals to utilize self help and support groups offered in community services. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: Enrollment in the Human Services, Community Support Human Service Practitioner or Alcohol/Drug Abuse Counseling programs.*

MH2155 MODALITIES OF TREATMENT

The focus of treatment modalities is an examination and exploration of the helping process, counseling approaches, and application of therapeutic techniques. Students will learn the theory and practice of various treatment models that include psychodynamic, behavioral, supportive, existential, and recent modalities. Values and attitudes related to the delivery of human services, ethical issues, and confidentiality are integrated into the course. A primary goal of this course is to provide future and or present personnel in the field with essential information needed to provide appropriate services. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: Enrollment in the Human Services or Alcohol Drug Abuse Counseling programs.*

**MH2156 BEHAVIOR MANAGEMENT PRINCIPLES &
TECHNIQUES**

This course seeks to acquaint students with the application of principles of instruction learning theory to the problems of human behavior. Focus will be on approaches to an individual's behavior management problem and practical techniques for helping individuals to improve functioning in the community. Content will include the analysis of behavior, reinforcement of behavior, point or token system, shaping process, ethical issues and future trends in behavior management. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: Enrollment in the Human Services or Community Support Human Service Practitioner programs.*

MH2166 SEMINAR IN HUMAN SERVICES

This seminar allows for group discussion of theoretical and practical approaches in the delivery of human services through guest presentations of expert practitioners in the field. The course provides a culminating learning experience to integrate the human service education received, job search, and consideration of long term career paths. A Human Service Professional Portfolio will be completed by all participants. Graduate identity as a human service practitioner is presented in this seminar. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: Enrollment in Human Services, Community Support Human Service Practitioner or Alcohol/Drug Abuse Counseling programs.*

**MH2168 HUMAN SERVICES PRACTICUM I IN ALCOHOL/
DRUG ABUSE SERVICES**

A practicum in selected alcohol/drug abuse agencies, hospitals detoxification programs, clinics, residential programs, shelters, and dual diagnosis services. Students have an educational experience of their own choice, and under professional supervision, that promotes personal and professional growth. Students provide direct services to individuals or groups using the skills of communication, interviewing, assessments, intervention, case management, networking, and documentation. They practice a philosophy of service that includes respecting the dignity of all individuals, recognizing individual differences, confidentiality, and ethical practice. Classroom theory is integrated into the practicum experiences where students demonstrate the core skills and competencies of addiction counselors. *One semester course; 4 credit hours; 12 practicum hours and 1 class hour/week. Pre-requisite: Enrollment in Human Services or Alcohol/Drug Abuse Counseling program.*

**MH2169 HUMAN SERVICES PRACTICUM II IN ALCOHOL/
DRUG ABUSE SERVICES**

A continuation of Practicum I but with greater involvement in the delivery of direct care services with increased understanding of the operation of the program and opportunity for career development. Classroom theory is integrated into the practicum experiences where students demonstrate the core skills and competencies of addiction counselors. *One semester course; 4 credit hours; 12 practicum hours and 1 class hour/week. Pre-requisite: Enrollment in Human Services or Alcohol/Drug Abuse Counseling program.*

MH2170 ALCOHOL AND DRUG ABUSE

This course is designed to generate an understanding of drug use/abuse/misuse, theories of addiction, dual diagnosis, and personal social consequences. Emphasis is placed on etiology, pharmacology, assessment, symptomatology, medical complications, treatment, relapse, and prevention. Participants will discuss community approaches to drug abuse, drug education, state and federal legislation, advocacy, family relationships, and networking with self help groups. A primary goal of this course is to provide future and or present personnel in the field with basic information needed to provide appropriate services. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: Enrollment in Human Services or Alcohol Drug Abuse Counseling Programs.*

MH2171 COUNSELING TECHNIQUES

This course will focus on helping students develop general individual counseling techniques and strategies for helping people with life living problems associated with the disease of addiction, mental illness and substance abuse. Special treatment philosophies, settings, systems, and methods will be discussed. Emphasis will also be placed on how to help people maintain sobriety/recovery and cope with relapse. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: Enrollment in Alcohol/Drug Abuse Counseling program.*

Italian

IT4401/IT4402 INTRODUCTORY ITALIAN I AND II

For students who have not completed two years of secondary school Italian or the equivalent as determined by the college. Audio-lingual emphasis. Introduction to grammatical patterns, reading and writing. *Two semester course; 3 credit hours per semester; 3 class hours/week.*

Keyboarding

TW6600 KEYBOARDING FOR COMPUTERS I

Designed to teach keyboarding skills to students entering a variety of fields such as computer science, data processing, accounting or any occupation that utilizes a keyboard similar to a typewriter to input information. *One semester course; 1 credit hour; 1 class hour/week.*

TW6650 COMPUTERIZED KEYBOARDING I

Designed to develop touch control of the computer keyboard, basic formatting functions and the use of word processing terminology. Concentration on building speed and accuracy skills. This course is designed to emphasize the application of these skills to common business correspondence. *One semester course; 3 credit hours; 3 class hours/week.*

TW6651 COMPUTERIZED KEYBOARDING II

Using a computer, the student concentrates on improving keyboarding speed, accuracy, and formatting using one of the most popular word processing tools in business today. The focus of the course is on document mastery of memos, letters, business reports, forms, and tables. Students will also learn features of word processing as they format business documents and build keyboarding skill. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: A grade of C or better for TW6650 or students must pass the Keyboarding assessment test.*

Language

LN1001 INTRODUCTION TO LANGUAGE

General overview of the study of language to include the origin and development of language, universal properties of language, language acquisition, dialects; meaning changes and semantics. Various languages, American Sign Language, and history of the English language will be discussed. *One semester course; 3 credit hours; 3 class hours/week.*

Law

LW6635 INTERNATIONAL BUSINESS LAW

An introduction to the basic aspects of international legal rules as they bear directly on persons and business organizations engaged in commercial transactions across national borders. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: Business Law I or equivalent.*

LW6651 BUSINESS LAW I

A course presenting an integrated approach to the legal environment of business with a fresh up to date introduction to those aspects of our legal system which cut across all areas of law, establishing a vital foundation for understanding the substantive subjects such as the American system of jurisprudence, constitutional law, the dual court system, administrative agencies, consumer protection, environmental law, Uniform Commercial Code, torts and crimes and a thorough understanding of the Law of Contracts. *One semester course; 3 credit hours; 3 class hours/week.*

LW6652 BUSINESS LAW II

Continuation of LW6651 developing a basic understanding and application of the Uniform Commercial Code consisting of sales, commercial paper, Law of Agency, banking, Letter of Credit, bulk transfer, documents of title, investments and secured transactions, and a general understanding of business organizations, bankruptcy, and estates and trusts. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: LW6651.*

LW6653 REAL ESTATE LAW

This course surveys real estate law principles and practice, including antecontractual considerations, the purchase and sale agreement, closing requirements, title searching techniques, and landlord/tenant law. Drafts of a residential purchase and sale agreement, as well as all necessary closing papers are required. Students are urged to take GV3300 Introduction to Law prior to or simultaneously with this course. *One semester course; 3 credit hours; 3 class hours/week. Students not enrolled in the Paralegal Program need permission of the program coordinator to enroll in this course.*

LW6661 LITIGATION

A study of the structure, jurisdiction and procedure of the state and federal courts. Emphasis is on the development of the skills required of a paralegal including: preparation of pleadings, use of rules of procedure, discovery procedure, client intake and case investigation. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: LW6670 Legal Research & Drafting. Students not enrolled in the Paralegal Program need permission of the program coordinator to enroll in this course.*

LW6662 WILLS, ESTATES & TRUSTS

A survey of the laws and documents that affect the disposition of an individual's assets at death. Areas addressed include: estate administration, court and probate proceedings, types of wills and trusts, decedent, distribution and fiduciary accounting. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: LW6670 Legal Research and Writing. Students not enrolled in the Paralegal Program need permission of the program coordinator to enroll in this course.*

LW6663 CORPORATE LAW

This course first surveys the formation and structure of sole proprietorships, partnerships, and limited partnerships. It then focuses substantial attention on the formation and structure of corporations, covering topics such as financial structure, meetings, reorganization, dissolution, liquidation, mergers and acquisitions, and employment and compensation. Students must draft partnership agreements, as well as the articles of incorporation and bylaws of a corporation. Students are urged to take GV3300 Introduction to Law prior to or simultaneously with this course. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: LW6670 Legal Research & Drafting. Students not enrolled in the Paralegal Program need permission of the program coordinator to enroll in this course.*

LW6664 FAMILY LAW

Course surveys family practice and procedure topics including: parental prerogatives, marriage, separation, divorce, custody and support, adoption and guardianship. Students learn to conduct client interviews, and draft pleadings necessary to the general practice of family law. Students are urged to take GV3300 Introduction to Law prior to or simultaneously with this course. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: LW6670 Legal Research & Writing. Students not enrolled in the Paralegal program need permission of the program coordinator to enroll in this course.*

LW6666 TORT LAW

This course will emphasize substantive tort law topics including, intentional torts (assault, battery, false imprisonment), negligence, professional malpractice, strict liability and products liability. Students will draft and respond to tort-related pleadings, discovery and motions. Introduction to Law prior to or simultaneously with this course is highly recommended. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: LW6670 Legal Research and Writing. Students not enrolled in the Paralegal Program need permission of the program coordinator to enroll in this course.*

LW6667 COMPUTER APPLICATIONS IN THE LAW

Survey of legal applications, including, but not limited to, litigation support database systems, timekeeping, advanced computerized legal research, and specific real estate law software programs. Hands-on legal training is emphasized. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisites: LW6670 Legal Research and Writing, LW6653 Real Estate Law, LW6664 Family Law. Students not enrolled in the Paralegal Program need permission of the program coordinator to enroll in this course.*

LW6670 LEGAL RESEARCH & WRITING

This course is an introduction to legal research methods, use of the law library, and computer-aided legal systems. Student will receive practical experience in the research and preparation of case briefs and legal memoranda with focus on the laws of the Commonwealth of Massachusetts and its court system. Use of, and familiarity with area law libraries will be required. *One semester course; 4 credit hours; 4 class hours/week. Pre-requisite: Students must qualify at the English Composition I level. Students not enrolled in the Paralegal Program need permission of the program coordinator to enroll in this course.*

Management

MG6620 INTRO. TO TOTAL QUALITY MANAGEMENT

Introduces the principles of company wide quality management including the theories of Deming, Ishikawa, Juran, Crosby and others. Students will apply various tools for process improvement to work-related problems. *One semester course; 3 credit hours; 3 class hours/week.*

MG6625 PLANNING FOR TOTAL QUALITY MANAGEMENT

Introduces principles, strategies and tools for planning a company wide quality program including Hoshin and other planning models, company self appraisal techniques, employee involvement and product/process development. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: Introduction to Total Quality Management (may be taken concurrently) or equivalent experience.*

MG6630 MANAGEMENT OF TOTAL QUALITY SYSTEMS

Introduces principles and systems for implementing and managing company wide quality practices, including standardization, supplier quality, production systems, support systems, employee involvement, and continuous improvement. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: Introduction to Total Quality Management or equivalent experience.*

MG6633 PROCESS CONTROL & IMPROVEMENT

Introduces methods of managing production within acceptable limits, identifying causes of unacceptable products, preventing defects, and improving processes. Primary focus on Statistical Process Control; also includes graphical problem solving tools, source inspection and poka-yoke systems, team process improvement techniques, and suggestion systems for waste elimination. *One semester course; 3 credit hours; 3 class hours/week. It is recommended that Introduction to Total Quality Management be taken prior or concurrent to this class.*

MG6635 MANAGEMENT PRODUCTION DESIGN

Introduces management concepts and systems of product design to meet customer needs and expectations, including: managing the integrated development of product, processes and support systems; gaining customer satisfaction through Quality Function Deployment; Taguchi and Western design of experiments; and managing the product over time. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: Process Control and Improvement or equivalent experience.*

MG6654 PURCHASING I

Designed as the first of two offerings in purchasing management technology. Emphasis will be placed on the management and inhouse organization of the purchasing department. Topics include purchasing procedures, information flow systems, standards and specifications, quality and inspection and decision making techniques for quantity considerations, supplier selection and price determination. *One semester course; 3 credit hours; 3 class hours/week.*

MG6655 PURCHASING II

Continuation of Purchasing I, this course will cover additional topics in purchasing technology. Contents include: ethics and the law, negotiations, capital goods, commodities and foreign purchasing, disposal of surplus, transportation, research, planning and budgeting, and performance evaluation. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: Purchasing I.*

MG6666 PRINCIPLES OF MANAGEMENT

An introduction to the principles and practices of management, with emphasis on the management functions of planning, organizing, staffing directing and controlling. The course serves the dual purpose of giving the students a basic foundation of management concepts and an understanding of the organization within which they must work. *One semester course; 3 credit hours; 3 class hours/week.*

MG6670 NEGOTIATIONS IN BUSINESS

Designed to provide the student with an understanding of various negotiating techniques and their application in different circumstances. Discussions include why these techniques work, how they work, when they should be used and how to defend against their misuse. Purchasing professionals need these skills in the daily performance of their duties; other managers will benefit from these techniques as well. *One semester course; 3 credit hours; 3 class hours/week.*

MG6676 HUMAN RESOURCES MANAGEMENT

Principles and human relations problems involved in the administration of personnel. Topics include job analysis and specification, recruitment, selection and training, job evaluation, supervision of employees, and salary and wage administration and labor relations. *One semester course; 3 credit hours; 3 class hours/week.*

MG6686 SMALL BUSINESS MANAGEMENT

Covers the challenges and objectives of owning a small business. It will identify the types of individuals who ought to consider self-entrepreneurship as well as what type of business one should enter. Full planning and executing of the startup of a small business and/or entering an existing business. Planning, organizing, directing and controlling the activities of the firm. *One semester course; 3 credit hours; 3 class hours/week.*

MG7700 INTRO. TO STRATEGIC MANAGEMENT

Reviews the nature and importance of strategic management in business, industry and service organizations. Topics include: basics of strategic analysis, implementation and management of change and innovation; using group dynamics and effective presentational skills in the integration of different operations and functions in business management; and analysis of various strategic situations in business using a case study approach. *One semester course; 3 credit hours; 3 class hours/week.*

MG7701 PRINCIPLES OF MATERIALS MANAGEMENT

Designed to introduce the student to materials management. From a broad review of the growth of modern material control theories and principles, this course progresses to a detailed review of the major functional areas within materials: production control, inventory control, purchasing, shipping, receiving, stockrooms and traffic. *One semester course; 3 credit hours; 3 class hours/week.*

MG7704 INVENTORY MANAGEMENT

Includes a study of general inventory management, inventory management systems and finished goods distribution. General inventory management addresses objectives and decisions, accounting and control of inventory and the relationship of inventory management to other business functions. Inventory management systems deals with the mathematical models used to describe and predict inventory results. Finished goods distribution develops the procedures and rules used to achieve inventory results in this area. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: Principles of Materials Management or equivalent field experience.*

MG7705 MASTER PLANNING

Covers two related areas: forecasting, which is concerned with future predictions, and master scheduling, which is concerned with the preparation and maintenance of an anticipated build schedule and master game plan. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: Principles of Materials Management or equivalent field experience.*

MG7706 MATERIAL REQUIREMENTS PLANNING

This course covers the principles of material requirements planning or MRP, a timed-phased planning technique that combines two ideas: calculation of dependent demand for component items and the addition of timing to inventory status data. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisites: Principles of Materials Management or equivalent field experience.*

MG7720 PRODUCTION & CAPACITY MANAGEMENT

Provides the student with an understanding of the techniques and principles used by managers to plan and control factory capacities, and to schedule, control and assess the effectiveness of production operations. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: Principles of Materials Management or equivalent field experience.*

MG7730 JUST-IN-TIME MANUFACTURING

Provides the student with a thorough understanding of the principles of Just In Time manufacturing, its many aspects and its implementation. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: Principles of Materials Management or equivalent field experience.*

Marketing

MK6678 PRINCIPLES OF MARKETING

Introduction to marketing with emphasis placed on the firm as a marketing system which must survive in its external environment of markets, resources and the general society. The concepts of market segmentation, corporate objectives, marketing strategies and marketing information systems will be stressed. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: BU4400 Intro. to Business.*

MK6679 ADVERTISING

Analysis of buying motives and the development of various advertising appeal. Planning, budgeting and testing of phases of the program and the several advertising media. *One semester course; 3 credit hours; 3 class hours/week.*

MK6681 SALESMANSHIP

Fundamentals of salesmanship by studying the behavioral aspects of the persuasion process; a systematic approach to selling which the student can use to develop the techniques which fit his own personality and particular situation. *One semester course; 3 credit hours; 3 class hours/week.*

MK6685 MARKETING ENTREPRENEURIAL VENTURES

Marketing principles and strategies for entrepreneurial ventures. Case studies which focus on the application of marketing tools and techniques to small businesses will be used. Students will participate in the process of creating a marketing plan for a small company. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisites: BU4450 Introduction to Entrepreneurship, MK6678 Principles of Marketing.*

MK6688 CONSUMER DECISION MAKING

Concerned with the decision making process that occurs in the market place. The emphasis is placed on the marketing implications of the internal and external environmental influences on the buyers' decision making process. Organizational decision making, as well as the individual consumer models will be presented. *One semester course; 3 credit hours; 3 class hours/week.*

MK6690 INTRO SALES MANAGEMENT

Concerned specifically with the management of an outside sales force and its activities. Students will be provided with a systematic conceptual framework for understanding the sales manager's decision processes as well as presenting the latest sales practices and sales management techniques. *One semester course; 3 credit hours; 3 class hours/week.*

Mathematics

Note: Students enrolling in any math course must first take the college assessment test. Placement is according to assessment test results.

MA0020 BASIC MATHEMATICS

Designed to provide basic mathematics skills required in other courses. Topics include complete review of arithmetic and introduction to algebra and geometry, emphasizing practical applications. This course is considered a developmental course and does not carry graduation credit. It is not usually transferrable. Students who receive less than a C- grade will be required to repeat this course. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: Recommendation of instructor or placement from assessment exams.*

MA0030 BASIC ALGEBRA

Designed to prepare students for other courses which require basic skills in algebra. Topics include number systems, linear equations, polynomials, factoring, and applications. This course is considered a developmental course and does not carry graduation credit. It is not usually transferrable. *One semester course; 3 credit hours; 2 class hours and 2 lab hours/week. Pre-requisite: C- or better in MA0020, recommendation of instructor or placement from assessment exams.*

MA5501 INTERMEDIATE ALGEBRA

Designed as a sequel to Basic Algebra or as a first course for students who have had at least one year of high school algebra. Topics such as algebraic fractions, systems of linear equations, inequalities and quadratic equations will be included. This course will not carry graduation credit in some programs. (For example, Engineering and Technology programs, Liberal Arts, General Studies.) Check individual programs for math requirements. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: One year of high school algebra or a "C" or better in MA0030 or equivalent.*

MA5506 STATISTICS

Set theory approach to probability. Descriptive statistics. Probability distributions. Sampling inferences from statistics. Hypothesis testing. Linear regression and correlation; computer component when applicable. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: Two years of high school algebra or "C" or better in MA5615 or equivalent.*

MA5520 LIBERAL ARTS MATHEMATICS I

Surveys some of the important ideas in mathematics. Topics such as problem solving by inductive and deductive reasoning, mathematical logic and number systems are included. *One semester course; 3 credit hours; 3 class hours/week.*

MA5525 LIBERAL ARTS MATHEMATICS II

Explores some of the interesting and useful aspects of mathematics such as probability, statistics, topology, mathematical modeling and the philosophy of mathematics. *One semester course; 3 credit hours; 3 class hours/week.*

MA5613 BUSINESS MATHEMATICS

The mathematics used in business transactions. This course will not carry graduation credit in some programs. (For example, Engineering and Technology programs, Liberal Arts, General Studies.) Check individual programs for math requirement. *One semester course; 3 credit hours; 3 class hours/week.*

MA5614 INTRODUCTION TO DISCRETE MATHEMATICS

Introduction to the study of finite systems. Topics will include logic and sets, relations and functions, mathematical induction and proofs, combinatorics, probability, matrices, graphs and digraphs. Special emphasis is given to applications in the computer science field. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: 2 years of high school algebra or equivalent.*

MA5615 COLLEGE ALGEBRA

Provides a comprehensive knowledge of algebra using a strong functional approach and an emphasis on graphing to visualize and solve real life problems. Topics include linear and quadratic modeling; solutions of equations and inequalities; symmetry, translations and reflections of graphs; analysis of functions using domain/range and increase/decrease; composition, inverse and one to one functions; logarithmic and exponential functions; and systems of equations. Credit not given for both College Algebra and College Algebra and Trigonometry. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: 2 years of high school algebra or a C or better in MA5501 Intermediate Algebra or equivalent.*

MA5620 MINI TRIG

Introduction to trigonometry designed for the student with two years of high school algebra, but little or no trigonometry. This course covers all the trigonometric topics discussed in MA5621. *One semester course; 1 credit hour; 1 class hour/week.*

MA5621 COLLEGE ALGEBRA & TRIGONOMETRY

This course and its sequel MA5622 are intended as preparation for the calculus sequence beginning with MA5690. This course covers two interrelated areas: algebra using a strong functional approach and an introduction to trigonometry. Both emphasize graphing to visualize and solve real life problems. Topics include: linear and quadratic modeling; solutions of equations and inequalities; symmetry, translations and reflections of graphs; analysis of functions using domain/range and increase/decrease; composition, inverse, one to one, and trigonometric functions; vectors; DeMoivre's Theorem; and determinants. Credit not given for both College Algebra and College Algebra and Trigonometry. *The first course in a 2-semester sequence: 4 credit hours; 4 class hours/week or 3 class hours plus a 2-hour problem session per week. Pre-requisite: 2 years of high school algebra or C or better in MA5501 Intermediate Algebra or equivalent.*

MA5622 ADVANCED ALGEBRA & TRIGONOMETRY

Continuation of MA5621. Advance topics in algebra and trigonometry are covered. *Second course in a 2-semester sequence; 4 credit hours; 4 class hours/week or 3 class hours plus a 2-hour lab per week. Pre-requisite: C or better in MA5621 or equivalent.*

MA5650 TECHNICAL MATHEMATICS FOR INDUSTRY

Reviews basic mathematical concepts needed in industry, fractions, decimals, geometry, algebra and trigonometry. *One semester course; 4 credit hours; 4 class hours/week.*

**MA5673 QUANTITATIVE METHODS FOR BUSINESS/
SOCIAL/LIFE SCIENCES**

Topics included in this algebra based course are matrices, linear systems of equations and inequalities, linear programming, probability, decision theory and statistics. Special emphasis is given to applications in business, social and life sciences. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: C or better in MA5615 or 2 years of high school algebra or equivalent.*

**MA5675 CALCULUS I FOR BUSINESS/
SOCIAL/LIFE SCIENCES**

Topics included in this algebra based course are polynomial, exponential and logarithmic functions, limits and differentiation. Special emphasis is given to applications in business, social and life sciences. *First course in a 2-semester sequence: 3 credit hours; 3 class hours/week. Pre-requisite: 2 years of high school algebra, C or better in MA5615 or equivalent.*

**MA5676 CALCULUS II FOR BUSINESS/SOCIAL/LIFE
SCIENCES**

Continuation of MA5675. This course includes techniques of integration, differential equations, and multi-variable functions. *Second course in a 2-semester sequence; 3 credit hours; 3 class hours/week. Pre-requisite: C or better in MA5675.*

MA5685 DIFFERENTIAL EQUATIONS

This course includes fundamentals of ordinary linear differential equations, Laplace Transforms and numerical methods of solutions. *One semester course; 4 credit hours; 4 class hours/week. Pre-requisite: C or better in MA5693 or equivalent.*

MA5689 CALCULUS ENRICHMENT LAB

Assists students to understand the concepts in calculus by doing projects and examining graphs with graphing calculators and computers. Topics include introduction to graphing calculators, domain/range, limits, continuity, differentiation, Newton's Method, integration, and Simpson's Rule. *One semester course; 1 credit hour. Pre-requisite: MA5690 (may be taken concurrently).*

MA5690 CALCULUS I

This sequence is designed for the Engineering, science or mathematics major who needs to master the techniques of calculus. Beginning with functions and limits, this course includes techniques and applications of differentiation, indefinite and definite integrals and applications of integration. *The first course in a 3-semester sequence; 4 credit hours; 4 class hours/week. Pre-requisite: 2 years of high school algebra and a semester of trigonometry, C or better in MA5622, or equivalent.*

MA5692 CALCULUS II

Continuation of MA5690. Topics include: applications of integration including, area and volume, techniques of integration, improper integrals and power series. *The second course in a 3-semester sequence; 4 credit hours; 4 class hours/week. Pre-requisite: C or better in MA5690 or equivalent.*

MA5693 CALCULUS III

Continuation of MA5690 and MA5692. Topics include vector calculus, partial differentiation and multiple integration. *The third course in a 3-semester sequence; 4 credit hours; 4 class hours/week. Pre-requisite: C or better in MA5692 or equivalent.*

Medical Assistant

**MS1002 FUNDAMENTALS OF MEDICAL ASSISTING I:
CLINICAL**

A study of the principles of the clinical duties performed by the medical assistant. Included are vital signs, positioning and draping, electrocardiographic (EKG) techniques, sterilization, and aseptic techniques. An introduction to pharmacology is included. *One semester course; 2 credit hours; 1 class hour and 2 lab hours/week.*

**MS1005 MEDICAL TRANSCRIPTION FOR MEDICAL
ASSISTANTS**

Introduction to the role of the transcriptionist in a variety of medical settings. Care, operation, utilization of keyboarding and transcribing equipment as well as transcribing techniques is included. Emphasis is placed on quality rather than quantity of production. Units included are: History and Physicals; Radiology Reports; Discharge Summaries; Operations; Pathology & Autopsy reports. *One semester course; 2 credit hours; 1 class hour and 2 lab hours/week. Pre-requisite: Keyboarding, 30 wpm. Co-requisite: HS1010 or equivalent.*

**MS1015 FUNDAMENTALS OF MEDICAL ASSISTING:
ADMINISTRATIVE**

This course will offer the students the opportunity to explore, study and practice the numerous administrative business techniques which are utilized for communications and medical and financial records in a variety of health care settings. It will concentrate on the various insurance plans available to the health care consumer. The proper method of filing third-party claims and crediting reimbursements will focus on the use of the computer in the medical office environment. Computer applications as they relate to third-party billing and completion of insurance forms will be stressed. The ethical structure and general principles of law which affect the role of the medical assistant is included. *One semester course; 5 credit hours; 3 class hours and 6 lab hours/week.*

MS2002 FUNDAMENTALS OF MEDICAL ASSISTING II: CLINICAL

Continuation of Fundamentals of Medical Assisting I: Clinical. Included are examining room aramentarium and parenteral administrations. Pharmacological studies are also included. *One semester course; 2 credit hours; 1 class hour and 2 lab hours/week. Pre-requisite: A grade of C or better in MS1002.*

MS2010 BASIC LABORATORY PROCEDURES FOR MEDICAL ASSISTING

Students develop the skills necessary to perform basic routine laboratory procedures which are included within the parameters of the role of the Medical Assistant. Included are correlated theory and supervised laboratory practice. *One semester course; 2 credit hours; 1 class hour and 3 lab hours/week. Pre-requisites: A grade of C or better in MS1015 and MS1002.*

MS2012 MEDICAL ASSISTING PRACTICUM

This course requires a minimum of 240 hours of experience in a variety of health care settings. Students will be assigned on a rotating basis. *One semester course; 4 credit hours; 16 practicum hours/week. Pre-requisites: A grade of C or better in MS1015 and MS1002.*

MS2015 MEDICAL ASSISTANT SEMINAR

This course explores the professional issues that affect the medical assistant. The current trends in education, certification and employment and their impact on the practicing medical assistant will be emphasized. Employment seeking techniques such as resume preparation and interviewing skills will be included. *One semester course; 1 credit hour; 1 class hour/week.*

MS3010 PHLEBOTOMY

This course will focus on obtaining hematological specimens from patients by venipuncture and micro-collection. Included are units on the circulatory system, collection equipment, infection control, requisitioning, specimen transport, quality control and safety. *One semester course; 2 credit hours; 1 class hour and 2 lab hours/week.*

MS3011 ELECTROCARDIOGRAPHIC (EKG) TECHNIQUES

This course will include the anatomy and physiology of the circulatory system. Units on electrocardiographic techniques, cardiac arrhythmia recognition and the role of the EKG technician are included. Students will have the opportunity to practice EKG's in the lab setting. *One semester course; 2 credit hours; 1 class hour and 2 lab hours/week.*

Music

MU7051 INTRODUCTION TO MUSIC

A course in the appreciation of music of European, American and non Western cultures from classical to rock. Emphasis will be on listening skills, expansion of listening perception, and the elements of music. *One semester course; 3 credit hours; 3 class hours/week.*

MU7052 SURVEY OF MUSIC: ANCIENT TO MODERN TIMES

A chronological survey of the music of Western civilization from ancient to modern times. Emphasis is on the historical evolution of musical styles. Students will study great works of music including some aspects of non-western music. Comparisons of music of the past will be made with music of the present. *One semester course; 3 credit hours; 3 class hours/week.*

MU7061 MUSIC READING AND THEORY I

Music reading is introduced and developed through computer assisted instruction as well as lectures, discussions and listening. Students will study various styles of music such as rock, pop, jazz and classical. Students will be taught to read and notate pitch, rhythm and music symbols and will learn construction of major scales. *One semester course; 3 credit hours; 3 class hours/week.*

MU7062 MUSIC READING AND THEORY II

Continuation of the content and methods used in Music Reading I with advanced exercise in reading and writing music. Development or knowledge about minor scales, intervals, harmony from the triad to the seventh chord, cadences, non-harmonic tones, chord progressions with harmonization of melody and music composition in the song form. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: MU7061 Music Reading and Theory I or permission of the instructor.*

MU7080 PIANO I

Designed to provide students with a strong background in playing the piano. Students will receive training in such areas as technique, intervals, ear training, rhythm, fingering, basic harmony, performance, and ensemble playing. The course will introduce students to effective practice methods. They will also be introduced to piano literature in its historical perspective. Open to beginners or to those who want to improve on skills already acquired. *One semester course; 3 credit hours; 2 class hours and 2 lab hours/week.*

MU7092 HISTORY OF JAZZ

A study of jazz – its definition, musical elements, history, performers, composers, styles and forms. Emphasis will be on understanding, appreciation and enjoyment of jazz through listening, explanation and insight into its cultural background. *One semester course; 3 credit hours; 3 class hours/week.*

MU7097 PERFORMANCE ENSEMBLE I

Ensembles of all sizes in rock, folk, jazz and classical music organized for the purpose of gaining experience in preparing and performing music before audiences. Video tape and cassette recordings of class performances are made for study purposes. Students enrolling must be capable of performing on a musical instrument or as a singer. *One semester course; 3 credit hours; 4 class hours (2 class and 2 lab hours) per week.*

MU7098 PERFORMANCE ENSEMBLE II

Continuation of MU7097 Performance Ensemble I with the requirement of further progress and musical development. *One semester course; 3 credit hours; 4 class hours (2 class and 2 lab hours) per week. Pre-requisite: MU7097.*

MU7100 HARMONY I

An intensive study of key signature, modes, intervals and triads leading to the basic principles involved in part writing, as exemplified by the music of the Common Practice period. Systematic investigation of the problems involving the use of dissonance (non-harmonic tones) within a basic four-part format. Correlated outside work. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: MU7090, or the ability to read music and knowledge of the major scales.*

MU7110 CHORUS I

The Northern Essex Community College Chorus performs, in concert, music from pop to classical. Experience in singing, vocal-part learning and performance is developed. Auditions will be held for voice placement. It is recommended that students take MU7061: Music Reading and Theory I at the same time. *One semester course; 3 credit hours; 4 class hours (2 class hours and 2 lab hours) per week.*

MU7111 CHORUS II

The Northern Essex Community College Chorus performs, in concert, music from pop to classical. Experience in singing, vocal-part learning and performance is developed. Students will need to demonstrate skills in reading music. It is recommended that students take MU7062: Music Reading and Theory II at the same time. *One semester course; 3 credit hours; 4 class hours (2 class hours and 2 lab hours) per week. Pre-requisite: Chorus I, MU7110.*

MU7131 MUSIC TECHNOLOGY: SOUND

An understanding of music through experiential activities in manipulating sound using sampling processing with the Roland S50 Digital Sampler and related software on the Macintosh computer. The Sampling Process involves Digitally Recording a sound and manipulating it through techniques such as looping, envelope shaping and combining tones. Introduction to aspects of MIDI (Musical Instrument Digital Interface) is included. *One semester course; 3 credit hours; 3 class hours/week.*

MU7132 MUSIC TECHNOLOGY: COMPOSITION

The focus of this course is to create music composition using appropriate software programs on the Macintosh computer and the multi-tracking techniques of sequencing and recording. Students will also learn patch programming, synchronization and the use of the drum machine. The course will cover use and understanding of the Musical Instrument Digital Interface (MIDI) protocol. Students develop their own compositions at the level of their own ability and music knowledge. Selected compositions will be presented in a college concert. *One semester course; 3 credit hours; 3 class hours/week.*

Nursing

NS6603 NURSING I

Nursing is presented as a unique profession that utilizes critical thinking in applying the roles of the Associate Degree Nurse (Provider of Care, Manager of Care, and Member Within the Profession). Nursing I is an introductory clinical/classroom course which helps the student learn how clients are challenged to maintain optimal wellness. Beginning skills are learned in the Health Education Support Center and performed in the clinical setting with faculty guidance. The student focuses on developing basic assessment skills in providing holistic, safe, and ethical care to culturally diverse clients in a variety of health care settings. *One semester course; 8 credit hours. Day and Evening Option Hours: 4 class hours/week. Clinical meets 12 hours a week.*

NS6604 NURSING II

Students continue to build on theoretical and clinical foundations developed in Nursing I. Nursing II focuses on applying the holistic approach to the care of clients with common health stressors, using a simple to complex format. Self-direction and teaching/learning principles are emphasized when developing and carrying out a plan of care for individuals of various ages and cultures. Within a variety of health care settings, students apply the nursing process in further developing assessment skills and interventions that promote the health status of clients and families. The Health Education Support Center continues to be an integral part of the students' learning process. *One semester course; 8 credit hours. Day and Evening Option Hours: Class meets 4 hours a week. Clinical meets 12 hours a week.*

NS6653 NURSING III

Students will continue to build knowledge gained in previous nursing courses. This course emphasizes the holistic approach in the care of families. Students are prepared to manage small groups of clients throughout the life cycle and to individualize their plan of care. A variety of clinical settings are utilized in caring for clients and families from culturally diverse backgrounds. Teaching/learning principles are expanded to include the development of clinical conferences for the peer group. Selected skills are presented in the Health Education Support Center. *One semester course; 8 credit hours. Day and Evening Option Hours: Class meets 4 hours a week. Clinical meets 12 hours a week.*

NS6654 NURSING IV

This course builds upon the theoretical basis and application of nursing practice presented in previous nursing courses. Nursing IV emphasizes holism in the care of clients in acute care, rehabilitation centers, and community settings. Students integrate critical thinking concepts in the application of crisis intervention theory while caring for individuals and families experiencing the expanding social problems of domestic violence, abuse, and maladaptive behavior. The student utilizes the nursing process to promote the maximum health potential for clients with complex health problems. A major focus for the student is the application of leadership/management skills in the care of individuals or groups of clients from culturally diverse backgrounds. Students utilize teaching/learning principles and lead clinical conferences. Current professional issues in nursing are presented for peers and others. *One semester course; 10 credit hours. Day and Evening Option Hours: Class meets 5 hours a week. Clinical meets 15 hours a week. Pre-requisite: See appropriate program options for specific Pre-requisites.*

NS6670 COMMUNITY HEALTH NURSING

Provides a theoretical and clinical foundation to the experienced Registered Nurse in community health nursing. Prepares participants for a variety of community health roles. *Six week course; 4 credit hours. Class meets 5 hours/week. Clinical meets 15 hours/week. Pre-requisite: Registered Nurse with a minimum of one year clinical experience.*

NS6684 HOSPICE NURSING

Designed to meet the needs of the Registered Nurse or Licensed Practical Nurse who wishes to develop a clinical specialty in hospice care. In this intense course, students are immersed in end-of-life care. Classroom content and clinical preceptorships work synergistically to enable participants to become able, knowledgeable practitioners in hospice care. *Six week course; 4 credit hours. Class meets 5 hours/week. Clinical meets 15 hours/week. Pre-requisite: LPN or RN. At least one year of clinical experience strongly recommended.*

Office Administration

SL6654 LAW OFFICE PROCEDURES I

This course includes: legal office organization, information management liabilities and requirements, computerized legal document drafting and production. The student will use application software to learn legal correspondence. Legal correspondence studies include preparation of the following: pleadings, discoveries, legal motion and memoranda and appellate briefs. The rules of grammar are stressed throughout. *One semester course; 3 credit hours; 2 class hours/week and 2 lab hours/week. Pre-requisite: Passed the Keyboarding Assessment for entry into TW6651 or completion of TW6650 Computerized Keyboarding I with a grade of C or Better. Co-requisite: CT6630 Introduction to Personal Computers or equivalent and GV3300 Introduction to Law.*

SL6655 LAW OFFICE PROCEDURES II

This course continues the study that began in law Office Procedures I. The course of study includes: basic legal research, law office bookkeeping procedures, docketing and tickler systems, law practice specialties, a survey of practice specialty software and use of the Internet as a resource for legal materials. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: Law Office Procedures I*

SL6663 OFFICE ADMINISTRATION

Emphasis is placed on the rapidly changing workplace in the global economy, which requires the office professional to be proficient in the application of office technologies in effecting administration solutions. Topics of study include administration communication, human relations, decision-making, creative thinking, career planning and employment. Instruction includes the application of office procedures and office information technologies through case studies and administration simulations using word processing, and database information technologies. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: TW6651 Computerized Keyboarding II and CT6630 Introduction to Personal Computers.*

SL6665 ESSENTIALS OF OFFICE MANAGEMENT

Development of judgments and insights needed by the executive secretary to function on the administrative or supervisory level. Analysis of long-range office projects, determination of work priorities, organization of research information, and the place of human relations in the supervisory process. A case study approach to the problems of office supervision. *One semester course; 3 credit hours; 3 class hours/week.*

SL6675 WORD PROCESSING

Designed to develop the word processing business skills applied in today's business environments. Merging, creating multi-column documents, changing advanced fonts, sorting, creating macros and desk top publishing are among the advanced functions covered. Keyboarding speed skills assessment will be conducted throughout to build typing skills. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: TW6651 Computerized Keyboarding II or equivalent.*

SL6682 BUSINESS COMMUNICATIONS

Development and refinement of communication skills necessary for satisfactory job performance in business, particularly on the managerial and administrative levels. The course emphasizes various types of business letter writing, reports, memoranda, and business forms common to the operation of the modern business office. The preparation of business documents will be coordinated with the concepts of electronic word processing/information management. *One semester course; 3 credit hours; 3 class hours/week.*

Office Techniques

SK6653 MACHINE TRANSCRIPTION

Development of high-level skills in the use of transcription equipment. Emphasis is placed on the use of business, professional, and technical materials. Development of vocational transcription rates. *One semester course; 3 credit hours; 4 class hours/week. Pre-requisite: TW6651.*

Philosophy

PH0001 EARLY & MEDIEVAL PHILOSOPHY

An adventure in the history of ideas. A study of the rise and evolution of western philosophy from the early Greeks to the Renaissance. Emphasis on Plato, Aristotle, Augustine and Aquinas. *One semester course; 3 credit hours; 3 class hours/week.*

PH0002 MODERN PHILOSOPHY

A further adventure in the history of ideas. A study of the progress of western philosophy from the Renaissance to the twentieth century. Special emphasis on Descartes, Locke, Hegel, Nietzsche, Marx and Sartre. *One semester course; 3 credit hours; 3 class hours/week.*

PH0201 BIOETHICS

An examination of the interrelationships between philosophy and problems arising from advances in modern biology, including the ethical implications of the problems of population control, resource allocation and biomedicine. This is a discussion course for those students who enjoy dealing with ideas. *One semester course; 3 credit hours; 3 class hours/week. There are no Pre-requisites, but a general background in the sciences or philosophy may make the ideas presented in the course more meaningful.*

PH1101 INTRODUCTION TO PHILOSOPHY

The aims, nature and problems of philosophy, with emphasis upon theory of knowledge, metaphysics, ethics and philosophy of religion. *One semester course; 3 credit hours; 3 class hours/week.*

PH1102 ISSUES IN PHILOSOPHY

A critical analysis of the philosophic issues concerning human nature, freedom and determinism, esthetics, social and political philosophy and philosophy of history. Note: Not a sequential course. *One semester course; 3 credit hours; 3 class hours/week.*

PH1141 ETHICS

A study of representative ethical systems and how they deal with moral issues. Attention will be given to the meanings of basic terms and to the application of ethics to major personal and social problems of our times such as those in law, medicine, international issues, sexuality and lifestyle. *One semester course; 3 credit hours; 3 class hours/week.*

PH1150 PRACTICAL LOGIC

This course is designed to introduce the student to the basics of reasoning, argumentation, and critical thinking. Included are criteria of sound reasoning, rational assessment of arguments, common fallacies, and basic informal logic. *One semester course; 3 credit hours; 3 class hours/week.*

PH1151 INTRODUCTION TO LOGIC

Course will inquire into the nature of critical thinking. Such topics as the functions of language, experimental truth and logical validity, the structure of deductive arguments, and the basic inductive methods will be considered. *One semester course; 3 credit hours; 3 class hours/week.*

Physical/Outdoor Education & Leisure Studies

PE1003 BACKPACKING

A course designed to introduce the students to both the recreational and fitness benefits, as well as, the skills of backpacking. The importance of the selection and maintenance of equipment, clothing, food, weather conditions and other related factors will be considered. A trip and hike will further acquaint the students with hiking opportunities and locations. *One-half semester course; 1 credit hour; 3 class hours/week.*

PE1008 CANOEING

The course follows the American Red Cross Small Craft certificate program for canoeing. Some of the skills include: paddling strokes, canoe rescue, artificial respiration and a trip. Students successfully completing the course will receive the American Red Cross Canoeing Certificate. All canoeing equipment is provided. *One-half semester course; 1 credit hour; 3 class hours/week.*

PE1011 FLY FISHING & FLY TYING

Cost, selection and care of various types of fishing equipment. Fundamental skills and techniques. Students will be taken off campus for practical application of skills acquired. *One semester course; 2 credit hours; 3 class hours/week.*

PE1014 GOLF

The fundamentals of golf; grip, stance, rules, swing and etiquette. Practice will be given with long and short irons, drives and putters. *One-half semester course; 1 credit hour; 3 class hours/week.*

PE1031 WEIGHT TRAINING

Basic principles and skills of weight training. Emphasis on cardiovascular and flexibility activities. *One-half semester course; 1 credit hour; 3 class hours/week.*

PE1032 MOUNTAIN BIKING

This is an introductory course to off-road mountain biking. This course will cover conditioning for biking, bike care and maintenance, trip planning, off-road safety and rescue procedures, environmental concerns, basic riding skills and knowledge necessary to enjoy this fast growing sport. All equipment will be provided. *One-half semester course; 1 credit hour; 3 class hours/week.*

PE1036 WALKING FOR FITNESS

This is an exercise and activity class. The emphasis is on covering the basics of walking as an all around conditioning activity, which helps develop total well-being. Classes consist of walking workouts and laboratory activities. Students of all ages and levels of fitness will profit from participation and gradually improve. *One-half semester course; 1 credit hour; 3 class hours/week.*

PE1038 CROSS-COUNTRY SKIING

This course includes the skills necessary for skiing uphill, downhill, striding on flat terrain, poling and different types of skiing equipment. Class time will be spent outdoors skiing and practicing skills. All skiing equipment is provided. *One-half semester course; 1 credit hour; 3 class hours/week.*

PE1039 MOUNTAIN CLIMBING/ROCK CLIMBING

This fundamental course will include basic techniques; belaying, repelling, ascents, descents, the proper use of personal climbing equipment and safety considerations. Most classes will be held outdoors. All climbing equipment is provided. *One-half semester course; 1 credit hour; 3 class hours/week.*

PE1041 YOGA I

This is a course in self-realization covering Hatha exercises and breathing, nutrition, relaxing, concentration and Eastern philosophy. Classes will consist of practice and discussion aimed at improving life through the wisdom of this timeless discipline. *One semester course; 2 credit hours; 1 class hour and 2 lab hours/week.*

PE1042 JOGGING

This course elaborates on one of the most simple but effective forms of conditioning. Class time will cover how to warm up, train and pace yourself so as to enjoy the pleasant overall exhilaration this activity promotes. *One-half semester course; 1 credit hour; 3 class hours/week.*

PE1043 YOGA II

This is a continuation of Yoga I, a self-enrichment course, covering hatha exercises, breathing, nutrition, relaxing, awareness and Eastern philosophy. Emphasis in this second semester is on the application of yoga to everyday life; performing more challenging postures; and remaining in these positions somewhat longer. *One semester course; 2 credit hours; 1 class hour and 2 lab hours/week Pre-requisite: Yoga I or permission of the instructor.*

PE1044 CYCLING

This course covers body conditioning, care of the bicycle and knowledge necessary to enjoy this fast growing sport. Time will be spent in touring and following pre-mapped itineraries. *One-half semester course; 1 credit hour; 3 class hours/week.*

PE1050 RACQUETBALL

An introductory course to racquetball. Includes the basic strokes, footwork, rules, regulations and strategy. *One-half semester course; 1 credit hour; 3 class hours/week.*

PE1070 BALLET I

Instruction in the basic skills of ballet technique. The combinations of movements from the classical ballet vocabulary will emphasize proper alignment, strength, speed, endurance, and flexibility. The course will also include an overview of the history of ballet. *One semester course; 2 credit hours; 1 class hour; 2 lab hours/week.*

PE1071 BALLET II

This class will review basic ballet techniques and progress to refinement of technique through more advanced work. The combinations of movements from the classical ballet vocabulary will continue to emphasize proper alignment, strength, endurance, speed, and flexibility. *One semester course; 2 credit hours; 1 class hour and 2 lab hours/week. Pre-requisite: Ballet I or permission of instructor.*

PE2001 INTRODUCTION TO CAREERS IN PHYSICAL EDUCATION

A career-oriented course designed to introduce new students to the profession of physical education, and to make them aware of career alternatives within the field of physical education and to familiarize them with the requirements and professional preparation. *One semester course; 3 credit hours; 3 class hours/week.*

PE2009 JAZZ DANCE

The focus of the course will be on developing specialized technique through the barre and basic jazz movements, as well as, providing basic instruction in a variety of jazz styles. The course will include a study of the history of jazz. *One semester course; 2 credit hours; 1 class hour and 2 lab hours/week.*

PE2010 MODERN DANCE I

A study of the fundamentals of modern dance technique. Emphasis is on cultivating a sound basic technique as well as self-expression through movement. The beginnings of modern dance will be examined with emphasis on the four pioneers: St. Denis, Shawn, Graham, Humphrey, who continued the legacy of Duncan. *One semester course; 2 credit hours; 1 class hour and 2 lab hours/week.*

PE2011 MODERN DANCE II

Utilizing basic dance skills from Modern Dance I, the student learns advanced techniques and skills to attain proficiency. While the emphasis is on sound technique, time is also reserved for creative activity. A study of the history of modern dance will continue with emphasis on dance figures following the four pioneer era. *One semester course; 2 credit hours; 1 class hour and 2 lab hours/week.*

PE2012 FIRST AID & CPR

This course prepares the student to deal with most types of medical emergencies. Classes include simulated disaster, ambulance tour, practical skills, knowledge of the National Safety Council First Aid and CPR book. When requirements are met, a standard first aid and/or CPR certification are earned from the National Safety Council's Green Cross. *One semester course; 3 credit hours; 3 class hours/week.*

PE2020 FOUNDATIONS OF HEALTH & FITNESS

A course designed as an individual health improvement and maintenance program, focusing on the concepts of wellness, positive lifestyles, individual health and fitness profiles, graded and controlled exercise, and monitoring and recording of certain body functions. Provides students with a series of analyses. The course merges fitness/exercise, nutrition/weight control, and stress management into a single program to help students develop an understanding of how to adapt their lifestyle to achieve a better quality of life. *One semester course; 3 credit hours; 3 class hours/week.*

PE2296 AEROBICS IN THEORY & PRACTICE

An exercise and activity class emphasizing the physiological components of aerobic exercise and its effect on the cardiorespiratory system. Classes consist of various types of aerobic workouts and laboratory activities. Students of all levels of fitness will profit from participation and gradually improve. *One semester course; 2 credit hours; 1 class hour; 2 lab hours/week.*

Physics

PI5503 INTRODUCTORY PHYSICS

This course is intended for non-science majors. It is designed to cover concepts in physics which are necessary for a basic understanding of our twentieth century physical world. The treatment will be largely non-mathematical and will cover topics such as motion, energy, gravitation, and the structure of matter. *One semester course; 4 credit hours; 3 class hours and 2 lab hours/week.*

PI5504 INTRODUCTORY PHYSICS II

A continuation of PI5503 with the same objectives, but focuses upon other interesting topics such as heat, light, radiation and relativity. *One semester course; 4 credit hours; 3 class hours and 2 lab hours/week. Pre-requisite: PI5503.*

PI5621 APPLIED PHYSICS I

This course is designed for the student in science, electronic technology, or a health profession such as physical therapy. Subject matter covered will include: principles of mechanics, concurrent forces, nonconcurrent forces, friction, elasticity, motion, forces and motion, work and energy, power, impulse and momentum, and simple harmonic motion. A non-calculus approach. *One semester course; 4 credit hours; 3 class hours and 3 lab hours/week. Pre-requisite: MA5621 or equivalent.*

PI5622 APPLIED PHYSICS II

A continuation of PI5621. Subject matter covered will include: fluid mechanics, sound, Archimedes principle, Bernoullis equation, heat and the laws of thermodynamics, properties of gases, electricity and magnetism, wave motion, reflection, refraction, and lenses. A non-calculus approach. *One semester course; 4 credit hours; 3 class hours and 3 lab hours/week. Pre-requisites: PI5621 and MA5621 or equivalent.*

PI5623 ENGINEERING PHYSICS I

To be taken concurrently with MA5692. The principles of mechanics, including composition and resolution of vectors, statics, moments, rectilinear motion, Newton's second law, motion of a projectile, work and energy, impulse and momentum, circular motion, rotational kinematics and dynamics, elasticity, harmonic motion. *One semester course; 4 credit hours; 3 class hours and 3 lab hours/week. Pre-requisite: MA5690 or equivalent.*

PI5624 ENGINEERING PHYSICS II

To be taken concurrently with MA5693. Heat, sound and optics, including the following: thermometry, quantity of heat, change of state, work and heat; heat transfer, thermal properties of matter, the first and second law of thermodynamics, wave motion, vibrating systems; acoustical phenomena; the nature and propagation of light; reflection and refraction at a single surface, lenses and lens aberration; optical instruments; illumination, color, and polarized light. *One semester course; 4 credit hours; 3 class hours and 3 lab hours/week. Pre-requisites: PI5623 and MA5692.*

PI5651 ENGINEERING PHYSICS III

Principles of electricity and magnetism, Coulomb's Law, potential, D.C. Circuits, the magnetic field of a current and of a moving charge, induced electromotive force, capacitance and inductance, magnetic properties of matter. *One semester course; 4 credit hours; 3 class hours and 3 lab hours/week. Pre-requisites: PI5623, PI5624 and MA5693 (MA5693 may be taken concurrently).*

PI6511 RADIOLOGIC SCIENCE I

Designed to examine the fundamentals of physical principles of electrical and x-ray physics and the operational study of x-ray equipment and auxiliary devices. The course will examine fundamental and derived units, mechanics, matter, magnetism and electricity, electromagnetism, generators, motors and transformers. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: Enrollment in Radiologic Technology program or permission of instructor.*

PI6512 RADIOLOGIC SCIENCE II

Emphasis will be placed on the formation of ionizing radiation by further analysis of x-ray and other types of circuits, tubes, etc., laws of motion, thermal considerations, optics and lens systems and radioactivity. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: Enrollment in Radiologic Technology Program or permission of the instructor.*

Practical Nursing

PN0101 PRACTICAL NURSING I

This course focuses on the fundamental skills and principles of administering basic nursing care to clients in geriatric clinical settings. Emphasis is placed on developing assessment skills needed to recognize and meet basic nursing needs; providing a safe comfortable physical environment; meeting the personal care needs common to all clients in simple nursing situations. Introduction to general surgical care, drug administration, proper communication techniques, and legal and ethical aspects of nursing care are included. The clinical component is correlated with the didactic, utilizing non-acute community settings. *One semester course; 10 credit hours; 8 class hours and 13 clinical hours/week. Pre-requisite: Acceptance into the Practical Nursing Program.*

PN0201 PRACTICAL NURSING II

This course introduces the student to the role of the Practical Nurse in the health care delivery to clients in all stages of growth and development, focusing on common medical surgical problems and the related pharmacologic and nutritional protocols in the therapeutic/restorative plan of care. In each unit the unique aspects of the pediatric, adult client will be identified. The clinical component, utilizing adult and geriatric medical-surgical and pediatric units, is designed to correlate the didactic with the nursing care practice. *One semester course; 10 credit hours; 8 class hours and 13 clinical hours/week. Pre-requisites: Completion of Practical Nursing I with a grade of C or better; PS1210 Developmental Psychology I and SC5503 Integrated Science I.*

PN0301 PRACTICAL NURSING III

This course provides the basic nursing skills necessary for an entry level Graduate Practical Nurse position. Proceeding from simple to complex, normal to abnormal, family-centered nursing care concepts and skills are developed in the obstetrical clinical settings. In various medical-surgical clinical settings, emphasis is placed on developing self initiative and graduate level skills and responsibilities. Included is further development of the nursing process as it is reflected in all aspects of health care and the nursing implications of the administration of common medications. *Ten week course; 8 credit hours; 7-1/2 class hours and 13 clinical hours/week. Pre-requisites: Completion of Practical Nursing II with a grade of C or better; SC5504 Integrated Science II and PS1211 Developmental Psychology II.*

PN0310 ISSUES & TRENDS IN PRACTICAL NURSING

This course explores the social, ethical and professional issues that affect nursing and influence nursing practices. A historical overview of nursing and practical nursing is presented; however, emphasis is placed on current trends in nursing education and practice and their impact on the practical nurse. *Ten week course; 1 credit hour; 1-1/2 class hours/week.*

Psychology

PS1101 INTRODUCTION TO PSYCHOLOGY

A survey course covering major topics and theorists in the field. The social, emotional, motivational, sensory and cognitive realms of behavior will be studied with a primary emphasis on normal developmental trends and patterns. Theorists considered may include Maslow, Freud, Piaget, Erikson and Skinner among others. *One semester course; 3 credit hours; 3 class hours/week.*

PS1105 FOUNDATIONS OF EARLY CHILDHOOD

This is a basic introductory course designed for those currently working with young children. The process of child growth and development from the prenatal period through early childhood and the societal context in which it occurs. The practical application of developmental theories will be emphasized as will the uniqueness of rates and patterns of growth with implications for guidance of children at home, school, and other peer-group contexts. May not be offered every semester. *One semester course; 3 credit hours; 3 class hours/week. This course meets the Office for Children Category A: Child Growth and Development.*

PS1151 CHILD PSYCHOLOGY

Development from conception through middle childhood will be explored. An overview of cognitive, linguistic, perceptual, motor, social and personality development will be presented with emphasis on the preschool years. Major developmental theories will be used to explore the contribution of environment, heredity and social factors to the developing child. Strategies for meeting the developmental needs of children will be included. May not be offered every semester. *One semester course; 3 credit hours; 3 class hours/week. This course meets the Office for Children Category A: Child Growth and Development. Pre-requisite: Introduction to Psychology or permission of the instructor.*

PS1152 ADOLESCENT PSYCHOLOGY

A study of adolescent development from the point of view of both the adolescent and the adult. Basic theories of development will be examined with an emphasis on social, emotional, physical and cognitive domains. Communication and problem solving techniques appropriate to this stage will be considered in general and with reference to specific potential conflicts. May not be offered every semester. *One semester course; 3 credit hours; 3 class hours/week.*

PS1154 PSYCHOLOGY OF PERSONALITY

This course introduces students to a variety of theoretical approaches to the understanding of character and personality. It includes psychoanalytic, learning, humanistic, transpersonal and existential theories. May not be offered every semester. *One semester course; 3 credit hours; 3 class hours/week.*

PS1210 DEVELOPMENTAL PSYCHOLOGY I: CHILDHOOD AND ADOLESCENCE

This course is designed to help students understand development from conception to adolescence. Patterns and sequences of physical, cognitive, social and psychological development will be explored. Specific problems which occur during this part of the life cycle will be discussed as well as the role that heredity, environment and social factors play in creating human differences. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: Introduction to Psychology.*

PS1211 DEVELOPMENTAL PSYCHOLOGY II: ADULTHOOD AND AGING

This course will examine physical, cognitive, emotional, social and personality development from young adulthood to old age. Its focus will include the interaction of biological, psychological and socio-cultural factors and their effect on growth and development during the adult years and later life. Also, adjustment processes from varying perspectives, and socio-cultural attitudes affecting successful aging, will be examined. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: Introduction to Psychology.*

PS1351 SOCIAL PSYCHOLOGY

A discussion of the fact that human nature is social and the implications of that fact: principally the effect of others upon one's mind and self imagery, and the complex social coordination that it allows. Special attention to individuation, the social validation of meaning and perception, symbols and symbolic interaction. May not be offered every semester. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: Introduction to Psychology or Introduction to Sociology.*

PS1354 HUMAN RELATIONS

A group experience providing students with an opportunity to study and experience interpersonal relationships in a small group in which the focus is on interpersonal communication. Limit 20 students. May not be offered every semester. *One semester course; 3 credit hours; 3 class hours/week.*

PS1651 ORGANIZATIONAL BEHAVIOR

An introductory course in the patterns and principles of human behavior in organizations. These will include such areas as organizational structure, motivation, decision making, managerial style, conflict and communication. A variety of organizational settings will be explored. May not be offered every semester. *One semester course; 3 credit hours; 3 class hours/week.*

PS1751 ABNORMAL PSYCHOLOGY

The study of the classification, etiology, treatment and prevention of behavioral and emotional disorders. Includes the study of stress disorders, anxiety disorders, personality disorders and psychoses. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: Introduction to Psychology or permission of the instructor.*

PS2112 PROBLEMS OF EARLY CHILDHOOD

A sociological-psychological study of factors leading to educational success for the young child defined as having special needs because of intellectual, cultural, social and emotional factors. Federal and State legislation dealing with the education of special needs children will be introduced. This course includes the role of the family and cultural background as they relate to educational success. A theoretical framework of crisis and loss will be presented. May not be offered every semester. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: Introduction to Psychology or permission of the instructor.*

Radiologic Technology

RT6505 RADIOLOGIC TECHNOLOGY: AN INTRODUCTION
Introduction to departmental administration; medical terminology; medical ethics; basic radiation protection; radiographic film, film holders, darkroom procedures; basic nursing procedures; infection control, universal precautions, isolation; and interaction with terminally ill patients. The course is divided into two separate modules. *One semester course; 3 credit hours. A four week course divided into two concurrent modules, A and B. Module A consists of 30 class hours and Module B includes 24 hours/week of clinical practicum. Pre-requisite: Enrollment in the Radiologic Technology Program.*

RT6515 CLINICAL PRACTICUM I

A concurrent aspect of Radiologic Technology I. The student will apply under direct supervision at the affiliate hospital principles learned in the classroom. Student assignments will be under the direction of the college clinical coordinator and the liaison instructor at the affiliate hospital. *One semester course; 2 credit hours. Students are required to perform supervised clinical activity and laboratory demonstration for a total of 16 hours/week. Pre-requisite: RT6505 Radiologic Technology: An Introduction.*

RT6521 RADIOLOGIC TECHNOLOGY I

This course will offer a comprehensive and detailed study of basic principles of radiographic exposure, preliminary radiographic positioning and radiographic osteology. Emphasis will be placed on the understanding of radiologic technology and its place in the clinical affiliation. *One semester course; 4 credit hours; 3 class hours and 2 lab hours/week. Pre-requisites: RT6505 Radiologic Technology: An Introduction; demonstrated algebra competence at the level of Intermediate Algebra or better.*

RT6522 RADIOLOGIC TECHNOLOGY II

This course will continue basic positioning, radiographic exposure and their interrelated principles. An evaluation and study of the use of contrast media will also be included. Emphasis will be placed on Radiologic Technology and its place in the clinical affiliation. *One semester course; 4 credit hours; 3 class hours and 2 lab hours/week. Pre-requisites: RT6521 Radiologic Technology I and RT6515 Clinical Practicum I.*

RT6523 RADIOLOGIC PRACTICUM

Students will be introduced to Special Diagnostic Exams, Portable and O.R. Radiography. Students will attend lectures and apply their knowledge and skills at the clinical affiliate. Clinical practicum allows the student continued experience and reinforcement of examinations learned to date. *Ten week summer session course; 2 credit hours. Pre-requisites: RT6525 Clinical Practicum II and RT6522 Radiologic Technology II.*

RT6525 CLINICAL PRACTICUM II

A concurrent aspect of Radiologic Technology II. The student will apply under direct supervision at the affiliate hospital principles learned in the classroom. Student assignments will be under the direction of the college clinical coordinator and the liaison instructor at the affiliate hospital. *One semester course; 2 credit hours. Students are required to perform supervised clinical activity and laboratory demonstration for a total of 16 hours/week. Pre-requisites: RT6515 Clinical Practicum I and RT6521 Radiologic Technology I.*

RT6531 RADIOLOGIC TECHNOLOGY III

This course will introduce the student to various imaging techniques and equipment. The student will also be introduced to the evaluation of radiographic equipment to assure consistency in the production of quality images. Tests and procedures used in evaluating radiographic equipment will be included. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: RT6523 Radiologic Practicum.*

RT6533 ADVANCED RADIOGRAPHIC POSITIONING

The student will study alternate methods of investigating the skeletal system for trauma and disease as they relate to Radiologic Procedures. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: RT6523 Radiologic Practicum.*

RT6535 CLINICAL PRACTICUM III

A concurrent aspect of Radiologic Technology III, Advanced Radiographic Positioning. The student will apply under direct supervision at the affiliate hospital principles learned in the classroom. Student assignments will be under the direction of the college clinical coordinator and the liaison instructor at the affiliate hospital. *One semester course; 3 credit hours. Students are required to perform supervised clinical activity and laboratory demonstration for a total of 24 hours/week. Pre-requisites: RT6523 Radiologic Practicum.*

RT6539 SPECIAL RADIOLOGIC PROCEDURES

The student will study special diagnostic radiographic procedures and the special equipment involved. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisites: RT6531 Radiologic Technology III, RT6533 Advanced Radiographic Positioning and RT6535 Clinical Practicum III.*

RT6541 COMPUTERS IN RADIOGRAPHY

This course will introduce the student to fundamental principles of computer technology, computer concepts and related terminology. Computerized tomography as a diagnostic tool will be discussed. CT equipment and its application will be investigated and basic CT examinations with related cross sectional anatomy will also be studied. *One semester course; 3 credit hours; 2 class hours and 2 lab hours/week. Pre-requisites: RT6531 Radiologic Technology III, RT6533 Advanced Radiographic Positioning and RT6535 Clinical Practicum III.*

RT6545 CLINICAL PRACTICUM IV

A concurrent aspect of Computers in Radiography, Radiobiology and Special Radiologic Procedures as well as a continual aspect of Radiologic Technology III, Advanced Radiographic Positioning and Fundamentals of Disease Process. The student will apply under direct supervision at the affiliate hospital principles learned in the classroom. Student assignments will be under the direction of the college clinical coordinator and the liaison instructor at the affiliate hospital. *One semester course; 3 credit hours. Students are required to perform supervised clinical activity and laboratory demonstration for a total of 24 hours/week. Pre-requisites: RT6531 Radiologic Technology III, RT6533 Advanced Radiographic Positioning and RT6535 Clinical Practicum III.*

RT6549 RADIOBIOLOGY

The student will study radiation quantities and units of measurement, maximum permissible dose requirements, the biological effects of radiation, genetic and somatic effects and principles and methods of radiation protection. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisites: RT6531 Radiologic Technology III, RT6533 Advanced Radiographic Positioning and RT6535 Clinical Practicum III.*

Religion

RE1101 WORLD RELIGIONS

A comparative study of the major religions of the world, including Hinduism, Buddhism, Taoism, Confucianism, Sikhism, Judaism, Christianity and Islam. *One semester course; 3 credit hours; 3 class hours/week.*

Respiratory Care

RS6614 INTRODUCTION TO RESPIRATORY CARE

This course provides an introduction and orientation to the field of respiratory care. Major topics include cardiopulmonary anatomy and physiology, medical gas and oxygen therapy; humidity and aerosol therapy; basic patient assessment; an introduction to blood gases and acid-base balance; chest physiotherapy; and finally sterilization and infection control. Physician input will be provided through supplementary lectures from the program's medical director. The lab component covers equipment and procedural skills related to lecture material. Respiratory Practicum I is a co-requisite and parallels this course giving the student clinical experience and an opportunity for the application of theoretical principles and content material presented in this course. *One semester course; 7 credit hours; 6 class hours, 2 lab hours/week. Co-requisite: RS6615 Respiratory Practicum I.*

RS6615 RESPIRATORY PRACTICUM I

This practicum in a parallel fashion, utilizes knowledge and skills presented in RS6614 lecture and lab, and applies them to the hospital setting. This practicum includes an orientation to the hospital and an introduction to basic respiratory therapy procedures. Also included are CPR instruction, certification and an initial preclinical orientation period. Presented at one of the program's hospital affiliates, this practicum is administered jointly by a clinical instructor and the program's clinical coordinator. *One semester course; 2 credit hours; 8 clinical practicum hours a week. Co-requisite: RS6614 Introduction to Respiratory Care.*

RS6624 RESPIRATORY PROCEDURES & ASSESSMENT

This course presents sections in cardiopulmonary pathophysiology, pulmonary disease, basic pulmonary function testing, clinical application of blood gas analysis, and an introduction to positive pressure breathing, IPPB, mechanical ventilators and emergency respiratory care. Physician input will be provided through supplementary lectures from the program's medical director. The lab component covers equipment and procedural skills related to lecture materials. Respiratory Practicum II is a co-requisite and parallels this course giving the student clinical experience and an opportunity for the application of theoretical principles and content material presented in this course. *One semester course; 7 credit hours; 6 class, 2 lab hours/week. Co-requisite: RS6625 Respiratory Practicum II. Pre-requisites: RS6614 and RS6615 with a grade of C or better.*

RS6625 RESPIRATORY PRACTICUM II

This practicum in a parallel fashion utilizes knowledge and skills presented in RS6624 lecture and lab and applies them to the hospital setting. This practicum continues to build on competencies acquired during the first semester. Emphasis is placed on the day to day therapeutic respiratory procedures. Presented at one of the program's hospital affiliates, this practicum is administered jointly by a clinical instructor and the program's clinical coordinator. *One semester course; 4 credit hours; 16 clinical practicum hours a week. Co-requisite: RS6624 Respiratory Procedures and Assessment. Pre-requisites: RS6614 and RS6615 with a grade of C or better.*

RS6629 RESPIRATORY PHARMACOLOGY

This course will present the principles of general pharmacology and action of the major respiratory drugs. In addition, the anatomy and physiology of the autonomic nervous system and its role in drug action will be covered. Drugs will be studied as groups and individually for site and mechanism of action, contraindications and side effects, clinical uses and routes of administration. *One semester course; 2 credit hours; 2 class hours/week. Pre-requisites: RS6614 and RS6615.*

RS6644 VENTILATOR MANAGEMENT AND PULMONARY FUNCTION TESTING

This course covers areas of airway and ventilator management, advanced pulmonary function testing, an introduction to neonatal and pediatric respiratory care, cardiopulmonary rehabilitation, and analysis and decision making skills. Physician input will be provided through supplementary lectures from the program's medical director. The lab component covers equipment and procedural skills related to lecture material. Respiratory Practicum III is a co-requisite and parallels this course giving the student clinical experience and an opportunity for the application of theoretical principles and content material presented in this course. *One semester course; 7 credit hours; 6 class hours, 2 lab hours/week. Co-requisite: RS6645 Respiratory Practicum III. Pre-requisites: RS6624 and RS6625 with a grade of C or better.*

RS6645 RESPIRATORY PRACTICUM III

This practicum in a parallel fashion, uses knowledge and skills presented in RS6644 lecture and lab and applies them to the hospital setting. This practicum continues to build on competencies acquired during previous semesters. Emphasis is placed on airway care, ventilator management and a rotation through the pulmonary function lab. Presented at one of the program's hospital affiliates, this practicum is administered jointly by a clinical instructor and the program's clinical coordinator. *One semester course; 4 credit hours; 16 clinical practicum hours a week. Co-requisite: RS6644 Ventilator Management & PFTS. Pre-requisites: RS6624 and RS6625 with a grade of C or better.*

RS6654 RESPIRATORY INTENSIVE CARE

This course will provide units on electrocardiography, cardiac drugs, cardiopulmonary pathology and hemodynamic monitoring. Also included are units on critical care respiratory therapy, respiratory related trauma, neuromuscular disease, cardiopulmonary rehabilitation, and analysis and decision making skills. Students will have the opportunity to take practice registry and clinical simulation exams. Physician input will be provided through supplementary lectures from the program's medical director. Respiratory Practicum IV parallels this course giving the student clinical experience and an opportunity for the application of theoretical principles and content material presented in this course. *One semester course; 6 credit hours; 6 class hours/week. Co-requisite: RS6655 Respiratory Practicum IV. Pre-requisites: RS6644 and RS6645 with a grade of C or better.*

RS6655 RESPIRATORY PRACTICUM IV

This practicum, in a parallel fashion, utilizes theoretical knowledge presented in RS6654 lecture and applies it to the hospital setting. This practicum continues to build on competencies acquired during previous semesters. Emphasis is placed on respiratory intensive care. Speciality rotations are established through a neonatal/pediatric facility and a homecare agency. Presented at one of the program's hospital affiliates, this practicum is administered jointly by a clinical instructor and the program's clinical coordinator. *One semester course; 4 credit hours; 16 clinical practicum hours/week. Co-requisite: RS6654 Respiratory Intensive Care. Pre-requisites: RS6644 and RS6645 with a grade of C or better.*

RS6659 RESPIRATORY CARE SEMINAR

This course integrates the psychology of patient care, death and dying, interpersonal relations, the principles of management, use of computers, and other subjects related to employment in the hospital environment. Since a seminar is defined as a group of advanced students studying under a professor, each doing research and sharing the results of that research with each other, this course relies heavily on student participation. *One semester course; 2 credit hours; 2 class hours/week. Pre-requisites: RS6644 and RS6645.*

Science

SC0000 RESEARCH TOPIC IN SCIENCE

Designed for the advanced student who is interested in a career in the sciences. The student will work on a topic of his choice under the direction of one faculty member. Interested students should obtain a list of faculty members showing their areas of specific interest and then consult with the faculty member of his choice before registering for the course. Limited to one semester. This course does not fulfill the science requirement for graduation. *An open-end investigatory course with credit varying from one to three credit hours. Pre-requisite: Permission of the instructor.*

SC5503 INTEGRATED SCIENCE I

This course provides an introduction to the study of the structure and functioning of the human body. Related topics in chemistry, physics and disease are integrated with the appropriate body systems covered. An introduction to microbiology is also included. *One semester course; 3 credit hours; 3 class hours/week.*

SC5504 INTEGRATED SCIENCE II

Continuation of SC5503 covering the body systems not studied in SC5503. Related topics in chemistry, physics and disease are integrated where appropriate. *One semester course; 3 credit hours; 3 class hours/week.*

SC5011 ENERGY, ENVIRONMENT AND OUR FUTURE

Human population and associated energy demands have increased in the last century. This course examines the impact of this development from the points of view of food, technology and urbanization. The study of the progressive deterioration of human balance with the rest of nature shows the way psychological attitudes have to change. This course questions whether the prevailing attitudes and ever increasing energy demands and pollution can continue without destroying the delicate ecological balance that has taken so long to evolve. *One semester course; 3 credit hours; 3 class hours/week.*

SC5511 PHYSICAL SCIENCE I

An integrated course which considers the basic principles of the physical universe, including the study of motion, energy, heat, temperature, electricity, light, and the composition of substances, in an effort to develop an understanding of the relationship of science to everyday life. *One semester course; 4 credit hours; 3 class hours and 1 two-hour laboratory period per week.*

SC5512 PHYSICAL SCIENCE II

This is a continuation of Physical Science I. This course covers other interesting topics such as the Universe, the Solar System, the Earth, Rocks and Minerals, and the Atmosphere. *One semester course; 4 credit hours; 3 class hours and 1 two-hour laboratory period per week. Pre-requisite: SC5511 Physical Science.*

Shorthand/Dictation/Transcription

SH6601 SPEEDWRITING I

Speedwriting I is an entry level alphabetic system of shorthand designed to enable the student to master shorthand in a short time. This course includes principles, brief forms, abbreviations as well as developing the skill of taking dictation. Study of the non-shorthand elements of spelling and punctuation. *One semester course; 3 credit hours; 3 class hours/week*

SH6602 SPEEDWRITING II

Designed for students who have completed the principles course, Speedwriting I. This course will introduce dictation and transcription techniques. The study of non-shorthand elements of spelling and punctuation will continue. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: SH6601 Speedwriting I with a grade of C or better, or equivalent.*

Sign Language Interpreter

IN1010 INTRODUCTION TO THE DEAF COMMUNITY

Introductory course examining various aspects of the deaf community. Addresses the value of: American Sign Language and the culture it reflects, various professions within the deaf community, legislation impacting deaf people, an overview of educational approaches/controversies and linguistic variables within the deaf community, activities and current events relating to the deaf population, and lastly, the hearing mechanism, hearing disorders and audiological assessments and their ramifications within the deaf community. *One semester course; 3 credit hours; 3 class hours/week.*

IN1030 INTRODUCTION TO THE INTERPRETING FIELD

Provides general information about the field of interpreting, stressing the importance of a professional attitude toward interpreting, especially as developed through observance of ethical standards. Additionally, rudimentary interpreting skills will be introduced through laboratory exercises. Understanding these aspects of interpreting is enhanced through participation in the course Introduction to Practicum. *One semester course; 3 credit hours; 2 class hours and 2 lab hours/week. Pre-requisites: American Sign Language I with a grade of "C" or higher and permission of the coordinator.*

IN1041 INTRODUCTION TO PRACTICUM

Emphasizes the important aspects of professional interpreting (e.g., physical factors, mode of communication employed, professional attitude and approach to assignment, etc.). The field experience will provide both the opportunity to observe the material discussed in the classroom and to participate in actual interpreting situations. *One semester course; 2 credit hours; 1 classroom seminar plus 4 field hours/week. Pre-requisites: American Sign Language I with a grade of C or higher, simultaneous enrollment in American Sign Language II and Introduction to the Interpreting Field or with coordinator's approval.*

IN2029 INTERPRETING

Designed to develop a broad base of competency and performance skills in transliterating and interpreting. Emphasis is on an in-depth study of the principles of interpreting and their incorporation into specific interpreting situations. *One semester course; 4 credit hours; 3 class hours and 3 lab hours/week. Pre-requisites: Introduction to the Interpreting Field, American Sign Language II with a grade of C or better, and simultaneous enrollment in American Sign Language III or with coordinator's approval.*

IN2033 ADVANCED INTERPRETING

Involves further emphasis on developing competency and skills in transliterating and interpreting. A variety of learning activities aimed at strengthening interpreting techniques are conducted. *One semester course; 4 credit hours; 3 class hours and 3 lab hours/week. Pre-requisites: Introduction to the Interpreting Field, Interpreting, and American Sign Language III with a grade of C or better.*

IN2039 PRACTICUM I

Emphasizes the means for successful performance in professional interpreting situations. Field experience allows students to put theory into practice by providing opportunities for participation in various interpreting settings. *One semester course; 3 credit hours; 1 class hour plus 8 field hours/week. Pre-requisites: Introduction to Practicum with a grade of C, simultaneous enrollment in Interpreting and American Sign Language III and coordinator's approval.*

IN2041 PRACTICUM II

Provides advanced students with the opportunity to function in actual interpreting situations with professional advice and support. This supervised work experience is to be the final phase of preparation prior to entry into the field of professional interpreting. *One semester course; 3 credit hours; 1 class hour plus 8 field hours/week. Pre-requisites: Practicum I, American Sign Language III and Interpreting with a grade of C or higher, simultaneous enrollment in Advanced Interpreting and coordinator's approval.*

Sociology

SO1001 MULTICULTURAL PERSPECTIVES IN HEALTH CARE I

This course focuses on the impact of culture in shaping the American and selected target populations perspectives on health care. Attitudes, beliefs, and values held by the healthcare provider and healthcare receiver will be investigated, particularly as they relate to the effectiveness of the medical interpreter's role. *One semester course; 3 credit hours; 3 class hours/week. Enrollment restricted to students in Health Programs.*

SO2001 MULTICULTURAL PERSPECTIVES IN HEALTH CARE II

This course focuses on the effective application of concepts associated with both culture and Health care system. Students will demonstrate the skills of cultural awareness in the delivery of culturally sensitive care. *One semester course; 3 credit hours; 3 class hours/week. Enrollment restricted to students in Health Programs.*

SO3321 INTRODUCTION TO SOCIOLOGY

This course provides the student with an understanding of the theories, methods and approaches to the study of human social interactions. It emphasizes the founding and evolution of sociological thought and the influences of social institutions and cultural factors on human behavior. Among subjects covered are: culture, groups, socialization, deviance and social inequalities. *One semester course; 3 credit hours; 3 class hours/week.*

SO3324 CULTURAL ANTHROPOLOGY

An introduction to the diversity of contemporary human cultures. A cross-cultural perspective will be used to examine the subsistence patterns, marriage, kinship, political organization, religion and philosophy of selected non-European peoples. Theoretical frameworks to be considered will include evolutionary, cultural materialist, functionalist, personality and culture. *One semester course; 3 credit hours; 3 class hours/week.*

SO3325 NORTH AMERICAN INDIANS

Survey of Native American cultures north of the Mexican border. Prehistory will be briefly examined, but major emphasis will be on culture areas and cultural concepts: the economic, religious, family, political, and educational aspects of selected groups are explored. Adaptational patterns including the modern era will also be examined. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisites: SO3321 Introduction to Sociology or SO3324 Cultural Anthropology.*

SO3331 MARRIAGE AND THE FAMILY

The main focus of this course is the understanding of the relationship between family forms and social structure. This will involve an investigation of human sexuality, interpersonal communication, relationships, marriage, divorce, and alternative forms of family living. *One semester course; 3 credit hours; 3 class hours/week.*

SO3333 CONTEMPORARY SOCIAL PROBLEMS

An analysis of the relationship between social structure and social problems in contemporary society. The course will emphasize: 1) the interdependence of all social problems; 2) the interaction between our institutional forms and social problems; and 3) the relationship between values and social action. May not be offered every semester. *One semester course; 3 credit hours; 3 class hours/week.*

SO3343 JUVENILE DELINQUENCY

This course will concern itself with an in-depth study of juvenile delinquency; its various causes, the sociological impact on the community, as well as present rehabilitative efforts which attempt to cope with this serious contemporary problem. May not be offered every semester. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: SO3321 or permission of the instructor.*

SO3353 INTRODUCTION TO CRIMINOLOGY

A survey of the patterns and evolution of adult criminal behavior and juvenile delinquency analyzed in terms of various theories of such behavior; types of crime, and the administration of criminal justice. May not be offered every semester. *One semester course; 3 credit hours; 3 class hours/week.*

SO3354 DEATH AND DYING

America is a death denying society. The hidden aspect of this universal experience has caused untold misery. Openness, honesty, sharing and personal consciousness-raising will enable people to lead richer, happier, more productive lives. Health worker, minister, teachers, police, parents, among others, can benefit from this course. Topics covered include medical definition, historic aspects, children and death, suicide, grief, rituals, and personal acceptance of death. May not be offered every semester. *One semester course; 3 credit hours; 3 class hours/week.*

SO3355 INTRODUCTION TO SOCIAL WELFARE

An introduction to social work and human service systems in America. An overview of historical and present characteristics and clinical issues in organizations such as family and child welfare agencies, youth and correctional agencies, child care centers, mental health institutions, and other agencies and services concerned with casework, group work and community organization work. Emphasis will be placed on knowledge of agencies and services, as well as worker's role and function in meeting the needs of the client population. *One semester course; 3 credit hours; 3 class hours/week.*

SO3358 WOMEN AND SOCIETY

An analysis of the effect of social structure on the position of women in society. Historical, cross-cultural and biological perspectives will be used to explore attitudes toward women and their economic and political positions. Women's issues will be viewed as they parallel general human issues. The course will encourage discussion of the possible effects of women's equality on the social structure of the future. May not be offered every semester. *One semester course; 3 credit hours; 3 class hours/week.*

SO3360 RACE & ETHNIC RELATIONS

This course is designed to provide students with a sociological perspective of Race and Ethnic Relations. Sociological concepts such as racism, prejudice, ethnicity, culture, etc. will be defined and explained. A variety of ethnic group experiences will be studied in order to look at their rich and vast contributions to U.S. society. The positive contributions of cultural diversity will also be a major focus of the course. May not be offered every semester. *One semester course; 3 credit hours; 3 class hours/week.*

SO3361 INTRODUCTION TO DEAF CULTURE

This course examines Deaf Culture from a multidisciplinary perspective. The historical treatment of deaf people will be explored along with the sociological and cultural factors that contributed to the depathologizing of deaf individuals and the emergence of Deaf Culture. This will include a discussion of education of the deaf, minority group dynamics, deaf community as a linguistic and cultural minority, and the importance of Deaf Culture (its language, values, traditions and diversity of membership.) and its interaction with the hearing community. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: SO3321 Introduction to Sociology or permission of the instructor. IN1010 Introduction to the Deaf Community is strongly recommended.*

Spanish

SP4401/SP4402 INTRODUCTORY SPANISH I & II

For students who have not completed two years of high school Spanish or the equivalent as determined by the department. Audio-lingual emphasis. Introduction to grammatical patterns, reading and writing. *Two semester course; 3 credit hours per semester; 3 class hours/week.*

SP4421 CONVERSATIONAL SPANISH I

Designed primarily for personnel in public service who need basic communication skills when dealing with speakers of Spanish only. Question/answer format; basic dialogue, pattern practices, specialized vocabularies to meet individual needs. Not open to students who have completed SP4401 or to native/near native speakers. (Students should check with the Foreign Language Department Chairperson about transfer status.) *One semester course; 3 credit hours; 3 class hours/week.*

SP4422 CONVERSATIONAL SPANISH II

A continuation of the vocabulary development of Conversational Spanish I with grammatical explanations as appropriate. Question/answer format; basic dialogue, pattern practices, specialized vocabularies to meet individual needs. In addition, cultural readings are introduced. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: SP4421 or equivalent.*

SP4423 CONVERSATIONAL SPANISH III

This course is open to students who have completed a college-level introductory Spanish course. Question/answer format; dialogues, specialized vocabularies to meet specific needs, specialized writing skills introduced. Conducted in Spanish. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: SP4422 or equivalent.*

SP4424 CONVERSATIONAL SPANISH IV

Question/answer format; specialized writing skills, specialized vocabularies to meet specific needs. Conducted in Spanish. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: SP4423 or equivalent.*

SP4451/SP4452 INTERMEDIATE SPANISH I & II

For students who have completed two or more years of high school Spanish or the equivalent as determined by the department, or who have completed SP4401 and SP4402. A continued study of language skills, emphasizing the development of reading ability. *Two semester course; 3 credit hours per semester; 3 class hours/week.*

SP4461/SP4462 REVIEW & PROGRESS IN SPANISH I & II

A review of basic structure, verbs, and related essentials. Intended for native speakers, Hispanic students, majors and non-majors. Strengthens skills in speaking, reading, and writing. Vocabulary and pronunciation improvement; short compositions. Reading and discussion of selected short stories, poetry and folklore. Course tailored to meet individual needs. *Two semester course; 3 credit hours per semester; 3 class hours/week. Pre-requisites: SP4401 and SP4402 or permission of the instructor.*

Theatre

TH7760 STAGECRAFT

Stagecraft is a hands on course in which students will learn about set design and construction, lighting, costumes, properties and stage management by doing a variety of projects aimed toward production in dance, as well as theatre. Script analysis from a production point of view, the hierarchy of personnel, and principals of visual composition and color theory will also be included. *One semester course; 3 credit hours.*

TH7765 INTRODUCTION TO THEATRE

This course has two general goals. First, to introduce the contemporary theatrical world: playwright, producer, theatre structure, director, actor, technicians and designers. Second, to apply knowledge in a practical experience situation. *One semester course; 3 credit hours; 3 class hours/week.*

TH7768 SCENE STUDY

Performance class offering in-depth scene and monologue study emphasizing character development and script analysis. Various acting techniques will be discussed and utilized. Course objectives will center on the ability of the students to overcome fears and barriers, the development of confidence in public, and the ability to make creative choices. *One semester course; 3 credit hours; 3 class hours/week.*

TH7769 ACTING

A lecture-performance course designed to familiarize the student with basic acting techniques. Discussion and exercises explore the vocal, bodily, and psychological aspects of acting. Script analysis, characterization, and performance. *One semester course; 3 credit hours; 3 class hours/week.*

TH7775 FUNDAMENTALS OF PLAY PRODUCTION: DIRECTING

The methods and techniques of directing. Adjunct activities – lighting, design, costume, makeup – are included. After seminars and scene work, students direct short plays. *One semester course; 3 credit hours; 3 class hours/week.*

TH7795 HISTORY OF THEATRE

A history of Western theatre from Greek to modern times. The focus of this course is on theatre architecture, production methods, acting styles and dramatic writing style in each period discussed. *One semester course; 3 credit hours; 3 class hours/week.*

TH7799 REHEARSAL AND PERFORMANCE

Students in this course constitute an acting ensemble which produces plays. Course work will include historical, structural and character analysis in both pre-rehearsal and rehearsal. Public performances. Critiques of performances. *One semester course; 3 credit hours; 3 class hours/week. Pre-requisite: Audition and written permission of instructor.*

Travel & Tourism

TL1001 INTRO. TO THE TRAVEL & TOURISM INDUSTRY

This course is designed as an introduction to travel agency operations, policies and procedures. Emphasis will be placed on domestic and international air travel; cruising; railroads, car rentals and charters; hotels; tours and itineraries. Also covered are selling the travel product to the individual, travel agencies and marketing, automation, and travel agency finances. *One semester course; 3 credit hours; 3 class hours/week*

TL1010 RESERVATION & TICKETING I

In this course, students will have the opportunity to develop hands on reservation and ticketing skills on computer terminals. Topics covered include building and Passenger Name Record (PNR); PNR modifications; fare quotes and itinerary pricing; automated airline ticket, boarding pass and invoice preparation; auxiliary reservation services such as car rentals, hotels and cruises; queue system; and client and corporate profiles. *One semester course; 3 credit hours; 2 class hours and 2 lab hours/week.*

TL1015 INTERNATIONAL & DOMESTIC DESTINATIONS

The continent of North America is studied in depth. Students will develop a sound knowledge of vacation and industrial cities throughout North America. They will also become familiar with important tourist destinations. The climate, culture, modes of transportation and places of interest are emphasized. World geography as it pertains to travel and tourism is studied on the basis of the various continents and how they relate to international travel. *One semester course; 3 credit hours; 3 class hours/week.*

TL1020 RESERVATION & TICKETING II

This course will cover the more advanced functions of the SABRE reservation system. Topics include itinerary modification, dividing a PNR, queues, direct reference system, auxiliary segments, and STARS. Students complete their lab requirements at a travel agency. *One semester course; 3 credit hours; 1 class hour and 4 lab hours/week. Pre-requisite: TL1010 Reservation and Ticketing I*

POLICIES

Affirmative Action/Accessibility

Northern Essex Community College complies with the requirements of Title IX of the Higher Education Act of 1972 and with the Viet Nam Era Readjustment Assistance Act of 1974. Recruitment, admission, programs, activities and facilities are available to all on a non-discriminatory basis, without regard to race, creed, religion, color, gender, sexual orientation, age, disability, veteran status, marital status and national origin. The college is an equal opportunity/affirmative action employer. Northern Essex is physically accessible to all people, including those who use wheelchairs. All programs and activities are accessible to all otherwise-qualified individuals who have disabilities. The college complies with the requirements and spirit of Section 504 of the Rehabilitation Act, as amended, and the Americans with Disabilities Act, as amended.

Inquiries regarding affirmative action, equal opportunity and accessibility concerns should be addressed to the Affirmative Action/Equal Opportunity Officer, the Section 504 Compliance Officer, and/or the Americans with Disabilities Act Coordinator, Northern Essex Community College, Elliott Way, Haverhill, MA 01830.

Alcohol Policy

It is the policy of the board of Trustees of Northern Essex Community College that no persons shall give, sell, deliver, or have in their possession any alcoholic beverage in any building owned or operated by the College, or on any premise used for college activity and under the control of the Board of Trustees of Northern Essex Community College. Alcoholic beverages are not permitted at any College event off campus that is intended for students.

Assembly Policy

Northern Essex Community College wholeheartedly encourages informal student gatherings to provide a welcoming community climate on campus. To establish orderly and safe spaces for all students and to facilitate easy and natural movement of students, faculty, staff and visitors through the halls and into the campus buildings, the college needs to designate appropriate places and times for small informal student gatherings. Generally, Monday through Friday, the following places may be used without formal scheduling:

- Jitters Care in the Spurr Building,
- Recreation areas in the Sport & Fitness Center,
- Lounge and Cafeteria in the Student Center, and
- exterior patio between the classroom buildings.

Personal music and conversation of one group should be contained at a level that doesn't disturb the neighboring group(s) or the business of the college.

Anytime that classes are in session the college requests that all members of its community and its visitors respect the need for sufficient quiet outside the classrooms and offices. Please restrict the size, noise and level of activity of informal group gatherings during any hours that classes are scheduled on campus to the above mentioned locations.

Campus Security Act

On November 8, 1990, Congress enacted the Crime Awareness and Campus Security Act of 1990 under Public Law 101-542, Title II. This act requires that institutions of higher education receiving federal funding collect information with respect to crime statistics and campus security policies and, beginning September 1992, prepare, publish, and distribute an annual security report.

Northern Essex Community College, in accordance with legal mandates and its philosophy of establishing and maintaining an environment of learning and a supportive climate in which to conduct the business and mission of the college, provides this information to the college community through the Vice President of Administration's office on the Haverhill Campus.

Firearms on Campus

It is the policy of Northern Essex Community College that no one is permitted to carry a firearm on the grounds or in a college building. The pertinent legislation, Chapter 269, section 10 of the Massachusetts General Laws states (in part) "(j) Whoever, not being a law enforcement officer, and notwithstanding any license obtained by him under the provisions of chapter one hundred and forty, carries on his person a firearm as hereinafter defined, loaded or unloaded or other dangerous weapon in any building or on the grounds of any elementary or secondary school, college or university without the written authorization of the board or officer in charge of such elementary or secondary school, college or university shall be punished by a fine of not more than one thousand dollars or by imprisonment for not more than one year, or both. For the purpose of this paragraph, "firearm" shall mean any pistol, revolver, rifle or smoothbore arm from which a shot, bullet or pellet can be discharged by whatever means.

Any officer in charge of an elementary or secondary school, college or university or any faculty member or administrative officer of an elementary or secondary, college or university failing to report violations of this paragraph shall be guilty of a misdemeanor and punished by a fine of not more than five hundred dollars."

Employees must report any suspected violation of this Policy/Law to the respective campus (Haverhill or Lawrence) Security Office, Superintendent of Buildings and Grounds or the college Vice President for Administration.

A law enforcement officer present as a student and wishing to carry a firearm shall obtain such written authorization. This form is available in the Office of Academic Affairs and in the Office of Enrollment Management and Student Services.

Policy Concerning Consensual Relationships

Under this policy of the Community College, consenting romantic and sexual relationships between faculty and student, librarian and student, administrator and student, classified staff member and student, or supervisor and employee are deemed unprofessional. Because such relationships interfere with or impair required professional responsibilities and relationships, they are looked upon with disfavor and are strongly discouraged.

Privacy Act Information

The Family Educational Rights and Privacy Act of 1974, as amended, insures confidentiality of educational records and prescribes the conditions under which information about students can be released to the student, parents or guardians, and authorized third parties. In addition, the Act defines the general record keeping requirements that the institution must maintain to insure accuracy and access of student educational data. The general Provisions of the Act are basic to the following guidelines:

- Students have the right to inspect their academic record (transcript) and student file, and request corrections to data that they believe to be in error or challenge the contents of their student record. The student academic record and file includes all information as of the date of application.
- Students have the right to obtain copies of their academic records, must do so in writing, and may be charged for copies.
- Students' parent(s) or legal guardian(s) have the right to access and copies of their children's academic transcript and record only if the child is less than 18 years of age.

- The institution may refuse to provide transcripts for such reasons as nonpayment of financial obligation of debt owed the college, but students still retain the right to inspect their records.
- *Directory Information* is defined as the student's name, address and telephone listing, date and place of birth, major field of study, participation in officially recognized activities and sports, weight and height of members of athletic teams, dates of attendance, degrees and awards received and the most recent previous educational institution attended by the student.
- The institution may disclose academic and Directory Information to college administrators and faculty whom the college has determined to have legitimate educational interests.
- A student has the right to restrict release of Directory Information in whole or part to certain parties, and must submit a request in writing to the Registrar.

Additional information about this act, the specific policies of this institution, and students' rights may be obtained by contacting the Student Information Officer, Acting Assistant Dean for Registration, Northern Essex Community College, Elliott Way, Haverhill, MA 01830, telephone 978-556-3700.

Sexual Harassment

Sexual harassment of a student, an employee or any other person in the College is unacceptable, impermissible and intolerable. Sexual harassment is a form of sex discrimination. It occurs in a variety of situations that share a common element: the inappropriate introduction of sexual activities or comments into the work or learning situation. Often, sexual harassment involves relationships of unequal power and contains elements of coercion as when compliance with requests for sexual favors become a criterion for granting work, study or grading benefits. However, sexual harassment may also involve relationships among equals, as when repeated sexual advances or demeaning verbal behaviors have a harmful effect on a person's ability to study or work in the academic setting.

For general purposes, sexual harassment may be described as unwelcome advances, requests for sexual favors, and other physical conduct and expressive behavior of a sexual nature when (1) submission to such conduct is made either explicitly or implicitly a term or condition of an individual's employment or education; (2) submission to or rejection of such conduct by an individual is used as the basis for academic or employment decisions affecting that individual; or (3) such conduct has the purpose or effect of substantially interfering with an individual's academic or professional performance and creating an intimidating, hostile, or demeaning employment or educational environment.

Such behavior is expressly forbidden by federal and state regulations. The federal government has established that such behaviors are actionable under provisions of Title VII of the 1964 Civil Rights Act, as amended, and the provisions of Title IX of the 1972 Educational Amendments, as amended.

Inquiries regarding sexual harassment concerns should be addressed to the Affirmative Action/Equal Opportunity Officer, Northern Essex Community College, Elliott Way, Haverhill, MA 01830.

Smoke-Free Environment

Because of our collective concern for the environment, and because we are aware of the harmful effects of smoking on the smoker, and because now much is being written about the effects of second-hand smoke on the non-smoker, Northern Essex Community College is committed to providing a smoke-free environment for students, employees and visitors. All college buildings, in Haverhill and in Lawrence, shall be smoke-free.

For those who wish to smoke despite the effects to themselves or others, accommodations are available outdoors in the vicinity of each building.

A complete statement of the college's smoke-free policy is available in the Office of the Director of Student Health Services and in the Office of the Associate Dean for Human Resources.

Northern Essex Community College reserves the right to withdraw or revise any provision or requirement described in the college catalog. Supplements to this document may be issued from time to time to present new or additional information.

Student Rights and Responsibilities

Student Rights and Responsibilities: A Code of Conduct is published separately, revised yearly and contains all student discipline and grievance policies and procedures. Copies are widely available and may be obtained from any Student Services Office.

Substance Abuse Policy

The college complies with all state and federal laws governing the possession, use and sale of alcohol, drugs and other illegal substances on campus and at all college-sponsored activities. In compliance with the *Drug-Free Schools and Communities Act of 1989*, the college annually distributes information and policy statements to each student and employee concerning standards of conduct, legal sanctions, health risks and programs related to its commitment to a drug-free study and work environment. Copies of this information and policy statement are available in the Personnel and Student Services offices.

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COLLEGE FACULTY

Full Time Faculty

George Bailey, Professor, English & Foreign Languages; A.B., M.A. Boston College; Ph.D., University of Wisconsin

Paul Bamberger, Professor, Developmental Studies; B.A., University of New Hampshire; M.F.A., University of Massachusetts

Arthur Barlas, Department Chairperson, History & Government; B.A., Boston University; M.A. Northeastern University

Carol Barron, Associate Professor, English & Foreign Languages; B.A., University of Massachusetts; M. Ed., University of Massachusetts; Ed.D., University of Massachusetts

Priscilla B. Bellairs, Department Chairperson, English and Foreign Languages; B.A., Michigan State University; A.M., Harvard University;

Adrien Berthiaume, Professor, Electronic Technology and Engineering Science; B.S., Worcester Polytechnic Institute

Wallace W. Blanchard, Professor, Natural Sciences; B.S. Ed., Fitchburg State College; M.S., Northeastern University

Paula A. Boxer, Professor, English & Foreign Languages; A.B., Tufts University; A.M., Boston University

James C. Bradley, Professor, Behavioral Sciences; B.A., M. Ed., Salem State College

Michael Broughton, Associate Professor; Computer Science; B.A., Merrimack College; M.S., University of Lowell

James Brown, Professor, Mathematics; B.S., University of Delaware; M.A., Boston University

Priscilla Cairra, Department Chairperson, Computer & Information Sciences; A.S., B.S., Northeastern University; M.B.A., New Hampshire College

Terry Cargan, Instructor, Departments of English and Creative Arts, Philosophy & Religion, B.A., State University of New York at Albany, M.F.A., Emerson College

Francis L. Champoux, Professor, Natural Sciences; B.S., Salem State College; M.Ed., University of Florida

Edward P. Champy, Jr, Professor, Electronic Technology and Engineering Science; B.S., M.E., Lowell Technological Institute

Cynthia Crivaro, Professor, Behavioral Sciences; A.A., Bradford College; B.A., University of New Hampshire; M.S., Northeastern University

Mary Crowley, Associate Professor, Practical Nursing; B.S. Ed., Fitchburg State College; M.S.Ed, Fitchburg State College

Catherine Dabrowski, Professor, Registered Nursing; B.A., Boston State College

Frank DeSarro, Professor, Developmental Studies; A.A., Xaverian College; A.B., Wesleyan University; M.A.T., Webster College

Linda Desjardins, Associate Professor, English & Foreign Languages; A.S., Northern Essex Community College; B.A., Lowell State College; M.Ed., Salem State College; C.A.G.S., Northeastern University

Sandra DeVellis, Professor, Behavioral Sciences; A.B., Northeastern University; M.S.W., Washington University

Mary DiGiovanni, Program Coordinator, Mental Health Technology; B.S., M.S., Boston College

Pamela A. Donahue, Professor, Office Technology; A.A., Northern Essex Community College; B.S., M.Ed., Salem State College

Carol Dowling, Professor, Registered Nursing; R.N., B.S.N., St. Anselm's College; M.S., Boston University

Roger Dufresne, Professor, Business Administration; A.S., Northern Essex Community College; B.S., Lowell Technological Institute; M.B.A., Seton Hall University

Gail Feigenbaum, Associate Professor, Early Childhood Education; B.A., Simmons College; M.Ed., Tufts University

Angela Figueroa, Professor, Office Technology; A.S., North Shore Community College; B.A., B.S., Salem State College; M. Ed., Suffolk University; Ed.D., University of Massachusetts, Amherst

Michael G. Finegold, Professor, Creative Arts, Philosophy, & Religion; B.A., Brooklyn College; M.A., M.M.A., Yale University

Kevin J. Fleese, Assistant Professor, Deaf Studies; B.S., B.A., Gallaudet University

Melissa Fleming, Associate Professor, Alcohol and Drug Abuse Counseling; B.A., Illinois State University; M.Ed., Antioch College

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DIRECTIONS

Haverhill Campus

Located at Elliott Way in Haverhill, Massachusetts just off Route 495 at exit 52. From the south, take exit 52. Turn left on Route 110. College is next left. From the north, take exit 52. Turn right on Route 110. College is next left after entrance/exit ramps for Route 495.

Lawrence Campus

Located at 45 Franklin Street in Lawrence, Massachusetts. From Route 495 north or south, take exit 41 (Route 28) toward Lawrence. Follow Route 28 north for 2.4 miles. Turn right on Valley Street and continue straight ahead into the campus parking lot. From Route 93 north or south, take exit 46 (Route 110). Proceed on Route 110 (which becomes Haverhill Street) toward Lawrence. Turn right on Route 28 and take the fourth left onto Valley Street. Continue straight ahead into the campus parking lot.

Northern Essex Community College

Haverhill Campus
Elliot Way, Haverhill, MA 01830

978 556-3000

Lawrence Campus
45 Franklin Street, Lawrence, MA 01841

978 738-7475